Textile Industries

Formerly "COTTON"

A W. R. C. Smith Publication

DECEMBER, 1953

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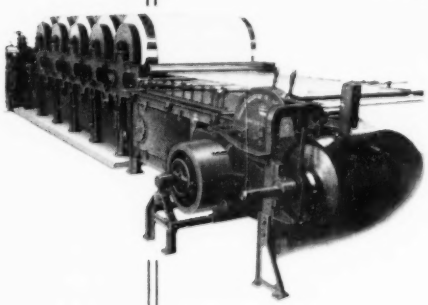
The Cocker High Speed 9-Cylinder Slasher

Produces More Pounds of Quality Weaving Warps Per Hour on All Types of Yarns



Speeds up to 100 yards per minute

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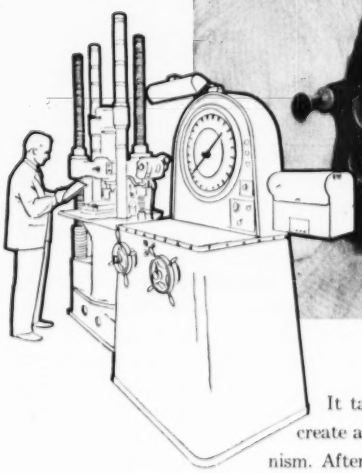

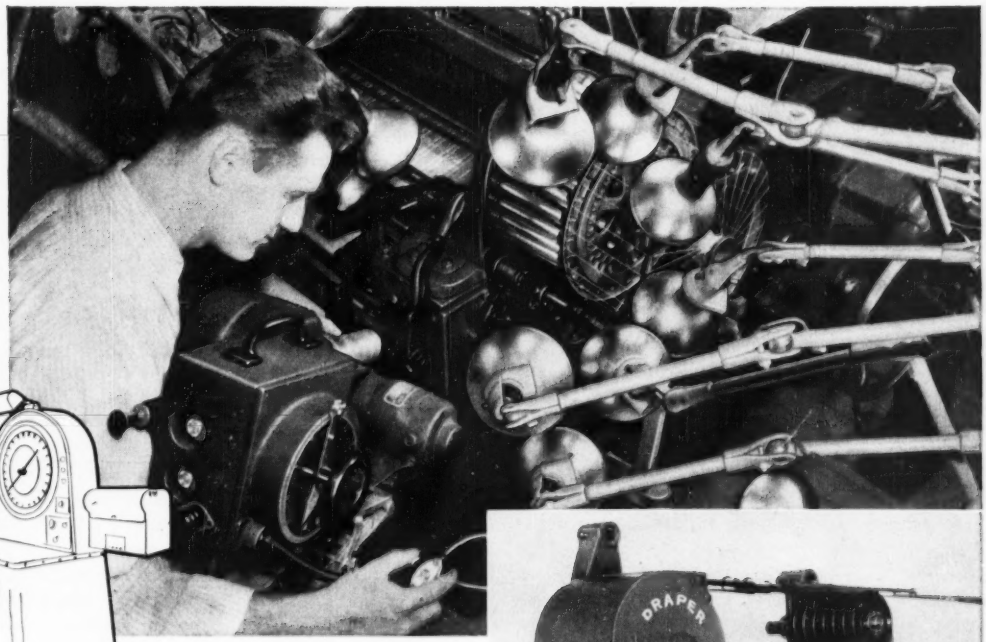

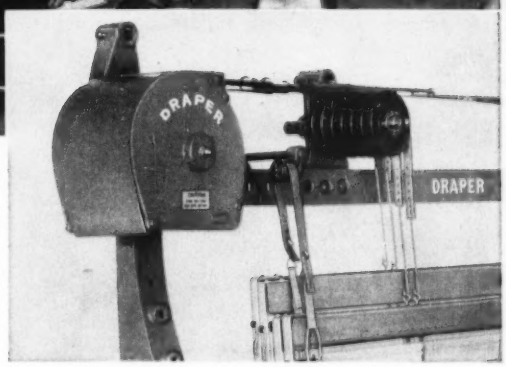

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It takes time and money to create a new machine or mechanism. After the development stage it must be proven to be mechanically sound, and equally as important, economically sound.

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FOR THE TEXTILE INDUSTRY

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Textile Industries

Vol. 117, No. 12
December, 1953

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EDITORIAL AND EXECUTIVE OFFICES: 806 Peachtree St., N. E., Atlanta 5, Georgia

TEXTILE INDUSTRIES is published monthly at 116 E. Crawford St., Dalton, Ga., by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A. W. J. Rooke, president; R. P. Smith, executive vice-president. Executive and Editorial Offices: 806 Peachtree St., Atlanta 5, Ga.
Subscription Rates: United States and Possessions, $2.00 for one year; Canada, South America, Central America, $2.00 per year; Foreign Countries, $5.00 per year.
Entered as second-class matter at the post office, Dalton, Georgia, under the Act of March 3, 1879.

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Shorts and Remnants

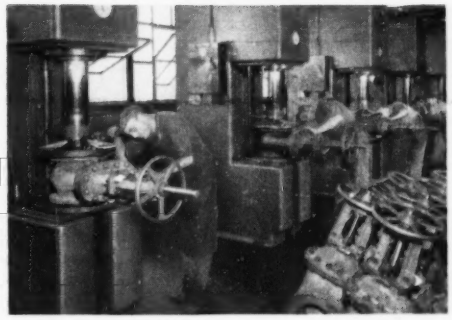
► Believe it or not, Christmas has crept upon us again, and happy are we to welcome Santa. You have just about two more weeks to fetch some-

thing for the little lady and the kids —and time is running out if you're planning on making a TI gift subscription to the boss or a key man. We're told by people who do that TI makes an attractive annual gift instead of just a Christmas gift. Naturally, we'd go along with the idea, even if TI spelled backward wasn't IT.

► Didn't take Ole S&R long to get commercial this time. Our gift to all subscribers is the Annual Index for 1953, loosely inserted in this issue. Stash it away in a safe place for reference; or, if you bind your 12 copies as so many mill men do, let it be bound too.

► One of our foreign friends may not bind one article. Although our American subscribers went for the story in a big way, the overseas fellow wrote that he could not make heads or tails out of it and thought the whole thing a hopeless mess. He ended with the comment that such an article scampers any unprepared customers away. Now TI's editors are not in the business of scampering anyone away from the editorial content, and they'll be sure to scamper around for an article that is right down the fellow's alley. Comments are appreciated, irrespective of nature.

► We hope this man won't scamper away from the mag once he gets a copy. Seems that he tried the news stands all over town and

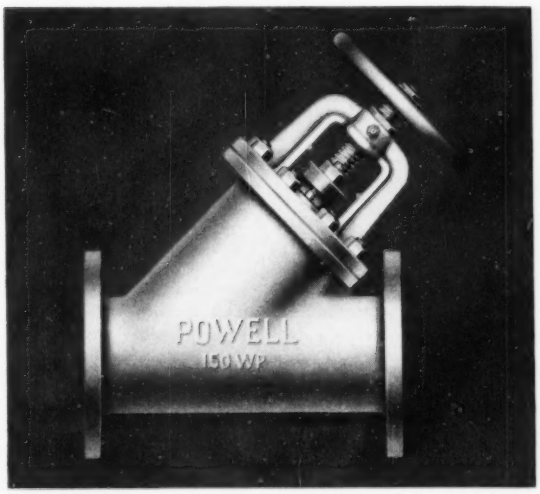


The Finishing Touch

Small details can make a big difference in trimming a tree . . . and in manufacturing valves. For example, *every* Powell Valve part must pass *rigid inspection*. Then, as a final, finishing touch, each Powell Valve is subjected to *actual line tests*.

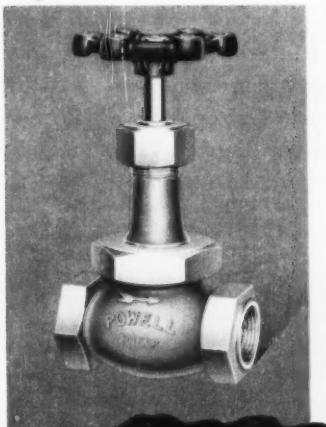
It's these seemingly small details that have helped Powell Valves maintain their record of dependability since 1846. Powell has probably done more valve research, solved more valve problems, and makes more types of valves than any other organization in the world.

With Powell Valves on the job in your plant, you'll say every day's a holiday from flow control worries. Following are just a few of the valves that have the gift of dependable service you want—and need. They're available through distributors in principal cities. If a distributor is not located near you, just write us. We'll be pleased to tell you more about these valves—and our complete line.

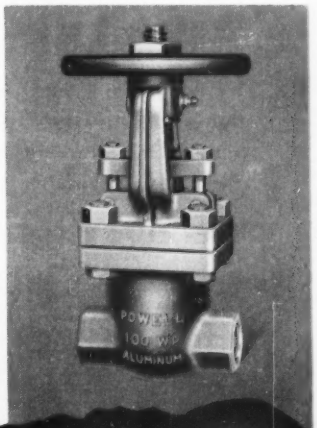


STAINLESS STEEL O.S. & Y. "Y" VALVE *(Fig. 1944)* for 150 pounds W.P. at 500 F. The stem is threaded, guided and rises through a bronze bushing in the upper yoke. Made with flanged ends only, with flange dimensions conforming to MSS SP-42. Sizes 2½" to 12", inclusive.

STAINLESS ALLOY GLOBE VALVE *(Fig. 1861)* for 200 pounds W.P. at 500 F. Union bonnet, screwed ends. Sizes ¼" to 2", inclusive. Sizes 2½" and 3" furnished with bolted flanged bonnet.



ALUMINUM O.S. & Y. GATE VALVE *(Fig. 2442)* for 100 pounds W.P. at 350 F. Type 304 or 18-8 Stainless Steel stem and interchangeable solid or double wedges. Sizes ¼" to 2", inclusive.



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RIDGID
Work-Saver Pipe Tools

Shorts and Remnants

couldn't find TEXTILE INDUSTRIES at any of them. That's understandable, because TI is not distributed thusly. When news stand copies were available, the stand operators found that everyone wanted TI and nothing else, so out of courtesy to our contemporary publishers, we discontinued the idea.

► Not long ago S&R advised that with the new administration the clerks in post offices had quit licking stamps for customers; the taxpayer is now required to lick his own. On top of that we get a postcard returned to us marked "Insufficient Address." As a matter of fact, there was no name or address on the card; the front was blank. But a smart operator wouldn't have returned it; don't they remember the message to Garcia? Where's their imagination?

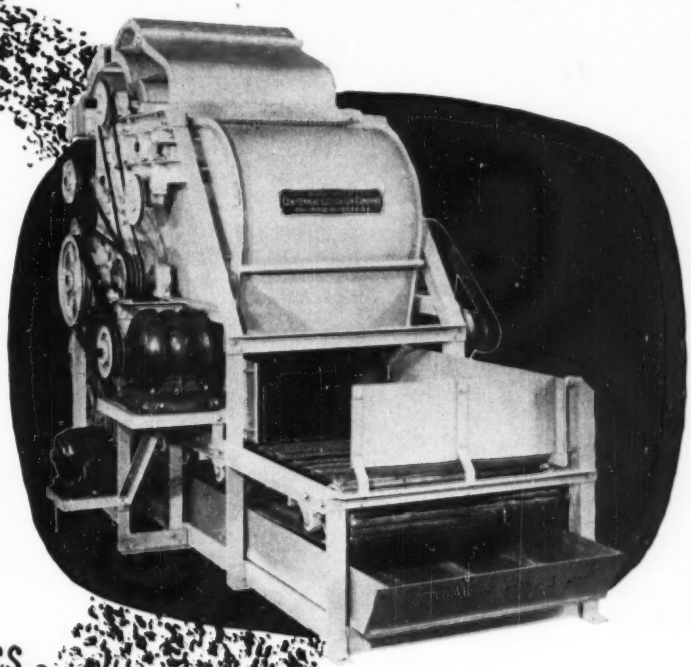
► Like the imagination of some of our good textile friends. Instead of the usual 3x5 inch doodling pad other people keep on their desks, Universal Winding furnishes its executive offices with 26x20 inch memo pads; that's room for a lot of doodling, and 'tis said that one sheet lasts a whole day, permitting the doodler to check the progress of doodles hour by hour.

► Another imaginative textile mill purchasing agent honors his callers with a certificate showing that they are "Colonels in the Confederate Air Corps." We are glad that when the market shows no sense of balance our mill men can retain their sense of humor.

► One of our other supplier advertisers didn't intend it humorously, but the ad for Armstrong Cork played up the new black and white apron. Planning on matrimony this month and feeling that a black and white kitchen apron is as tidy as a

THE CEN-TENNIAL OPENER

THE ULTIMATE IN FIBRE SEPARATION

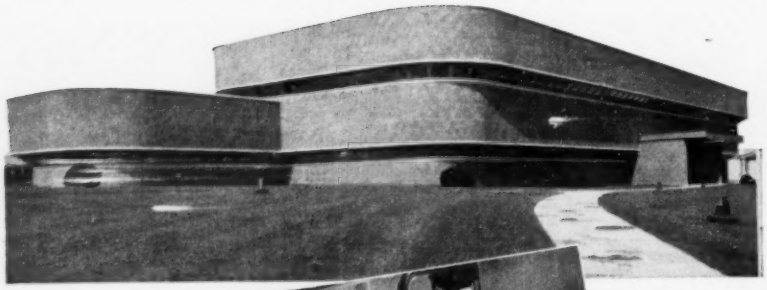


OPENS } COTTON
CLEANS } WOOL
BLENDS } SYNTHETICS

The Cen-Tennial Opener is a product based on research by Southern Regional Research Laboratory and thoroughly proven by mill experience. It reduces waste and neps, increases spinning efficiency and produces stronger and cleaner yarns. Dozens of installations attest to these results.

CEN-TENNIAL
COTTON GIN COMPANY

Columbus, Georgia



for SPRINGS MILLS

the finest floor that grows

foot-friendly

NORTHERN HARD MAPLE

You'd expect the new Springs Mills office building and laboratory to be truly *modern*—and it is. And quite as modern as its exterior design, its air-conditioning, its fine testing and production equipment and its unique custom furniture, are its floors—of *forever-modern* MFMA Northern Hard Maple. They're splendid, enduring floors, tight and bright and crevice-free, resilient, easy to maintain and *easy on the feet*. That's important. Foot-friendly maple floors cut down fatigue . . . which cuts down errors . . . which makes business better and more profitable. Springs Mills architect was Roberts & Co. Associates, Atlanta. Ask *your* architect, or see Sweet's (Arch. 12 K-MA). Write for New Flooring Textbook.

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FLOOR WITH NORTHERN HARD MAPLE
BEECH AND BIRCH

Shorts and Remnants

green one, she forthwith ordered several. Wrong number.

► But one of our correspondents was no better. Seems two men were telling him of their changing jobs at the same time and neither would quit talking—the personal note had the required number of lines and everything was there but the facts as related to each. Our apologies.

► Crestfallen was the word when we picked up a letter to read, "You are indeed to be complimented on the caliber of the articles which appear in TI"—only to find it came from one of TI's associates in the office. Resuscitated was the word when Ole S&R found 'twas really a legitimate letter from a mill man, retyped for handling by another department.

► S&R's award for the month goes to the British ship which hoisted three corsets instead of the conventional signal flags.

► But the disappointed and losing team football coach was in the running. He called his team together, held up the pigskin and said, "We're getting back to fundamentals; this is a football." From the back of the room came a voice, "Not so fast, coach, not so fast!"

► Homogenized milk, synthetic buttermilk, oleo, fizzed whip cream, and now a butter chip machine which converts slabs of butter into finished butter pats. All untouched by human hand. But they can't seem to bypass the cow. And on the new fiber from cotton, they don't bypass the cotton.

► Strictly textile intelligence: One person out of every fifteen is color-blind.

Painters have been union members since the 13th century, which may account for textile mills being built of brick.

Over 4000 firms in the U.S. are engaged in converting rags and mill waste.

There rarely has been a time when you didn't have a competitor.

If you're in the $10,000 bracket and because of income tax, to send Junior

Spray from a Grinnell ProtectoSpray Nozzle used in Opener Room Systems

Opener Room **FLASH FIRES**

How they can be safely **CONTROLLED IN A FLASH!**

No one can completely *prevent* opener room flash fires. But it is possible to drastically limit the resulting damage.

With a Grinnell Opener Room Fire Protection System — a manually operated system — you can prevent flame spread and practically eliminate damage to stock.

When loose cotton ignites, a worker simply moves to the nearest control point and presses the valve lever. Instantly, a misty spray blankets the whole opened cotton area. The fire cannot spread to other open bales because their surface fibres are immediately dampened and therefore will not burn.

Unnecessary water damage is avoided by the self-closing feature of the valve. Only a thin top layer of cotton need be stripped off for drying, if time does not permit normal evaporation.

A Grinnell Opener Room Fire Protection System is not intended to take the place of regular Grinnell Automatic Sprinkler Protection, but it is supplementary to it. The former takes care of flash fires; the latter, of deep-seated fires far enough advanced to operate a sprinkler system. Before fire strikes your opener room, call your Grinnell Fire Protection office, or write to Grinnell Company, Inc., Providence, Rhode Island.

N. C. **S. C.**

In a single section of the country, the Carolinas alone, there are 27 mills that rely on GRINNELL OPENER ROOM SYSTEMS

Acme Cotton Mills, Belmont, N. C.
Arkwright Mills, Spartanburg, S. C.
Brown Mfg. Co., Concord, N. C.
Cannon Mills Co., Kannapolis, N. C.
Carlton Yarn Mills, Cherryville, N. C.
China Grove Cotton Mills, China Grove, N. C.
Clifton Mfg. Co., Clifton, S. C.
Climax Spinning Co., Belmont, N. C.
Efird Mills Inc., Albemarle, N. C.
Erwin Cotton Mills, Cooleemee, N. C.
Erwin Cotton Mills, Erwin, N. C.
Harriet Cotton Mills, Henderson, N. C.
Henderson Cotton Mills, Henderson, N. C.
Joanna Cotton Mills, Joanna, S. C.
Linford Mills, Belmont, N. C.
Linn Mills, Landis, N. C.
Majestic Mfg. Co., Belmont, N. C.
Martel Mills, Lexington, S. C.
Martel Mills, Spartanburg, S. C.
Perfection Spinning Co., Belmont, N. C.
Rex Mills, Ranlo, N. C.
Rhyne-Houser Mfg. Co., Cherryville, N. C.
Roberta Mfg. Co., Concord, N. C.
Rocky Mount Mills, Rocky Mount, N. C.
Rowan Cotton Mills, Salisbury, N. C.
A. M. Smyre Mfg. Co., Gastonia, N. C.
South Fork Mfg. Co., Belmont, N. C.

GRINNELL

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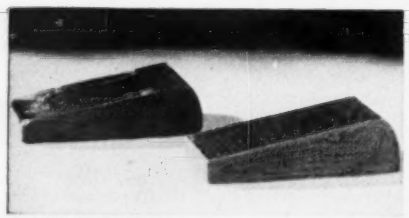
Manufacturing, Engineering and Installation of Automatic Sprinklers since 1878

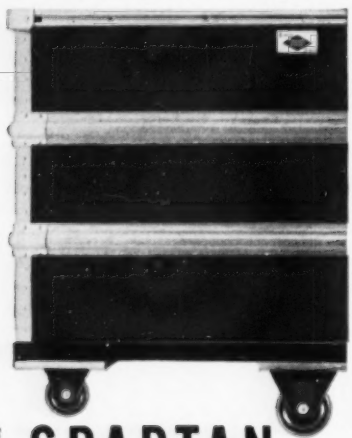
...From SPARTANBURG, S.C.

CDF TEXTILE NEWS



CELORON PARALLEL PLUGS

A canvas-based laminated plastic, made only by C-D-F, is used for molded parallel plugs that have high impact strength and are impervious to oil and water. The upper left plug was used for two years by a leading mill! Celoron does not require lubrication, never turns soft or spongy, lasts indefinitely. It does not fracture, chip, or delaminate. Write for sample.



THE SPARTAN

A side view of the industry's newest, best-built truck . . . the SPARTAN. Smooth Diamond Vulcanized Fibre sides. Curved center bands, rounded corners, well-riveted. Special no-snag top rim. Steel casters with heavy thread guard. *Write now for new folder showing complete C-D-F receptacles line!*

ALL PRODUCTS OF

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Shorts and Remnants

to college you'll need another $10,000 for a four-year period to turn the trick.

A whirlpool spins counter-clockwise in the Northern Hemisphere and clockwise in the Southern; movement at the equator is confused and listless.

South African natives dressed in briefed textiles have been known to exceed 7½ feet in the running high jump.

► And so we wind up another year. May your Yuletide Season be merry and bright. Keep your eye on TI, and remember, what people want for Christmases are subscriptions to TEXTILE INDUSTRIES.

Machine (not football) Interference

" . . . desirous of receiving about five reprints of the article on 'Machine Interference' by Dale Jones. If this is not procurable, would you allow us to ditto this article for the use of some our our supervisors?"

C. J. SCHOLLENBERGER
Director of Training
Dan River Mills, Inc.
Danville, Va.

► No reprints to meet the many requests. Ditto permission granted. For further comments on this article, see How Other Men Manage department this issue.

New Fibers

" . . . would you please advise if it is possible to get reprints of 'New Textile Fibers Created by Reaction of Cotton with Acrylonitrile' from October TI. . . "

J. H. ANDERSON
Head Manufacturing Office
Linen Thread Co., Inc.
Paterson, N. J.

► Reprints available from TI or ITT.

They Seam Down Under

" . . . just had the pleasure of reading 'Training Seamer Operators' . . . like to congratulate your organisation for presenting to the textile industry such a detailed and descriptive article. We are in contact with most of the leading hosiery manufacturers in Australia who have derived great benefit from this article and they are using it as a basis for their future method of production. . . . "

HARRY M. JAMES
Industrial Consultants, Ltd.
Melbourne, Australia

► Handknitters of the Belgian Congo are said to have discarded methods used for centuries to adopt principles of seaming laid down in April TI.

Maybe You Can Help

"We are trying to locate a copy of 'Standard Cotton Cloths and Their Construction,' by Nichols & Brownhead . . . present the book is out of print. . . "

H. W. SPINNING
Endless Belt Corp.
P. O. Box 200
Pisgah Forest, N. C.

► Anyone able to assist Mr. Spinning, please get in touch with him direct.

Reader Visits

" . . . mill man from one of the Pennsylvania hosiery mills came to see me about the full-fashioned rating charts [story] that appeared in the August issue. . . "

SAM BOYER
Wisteria Hosiery Mills
Gastonia, N. C.

► A good way to follow up on an article. Suggest making appointment first and offering courtesy of a return mill visit.

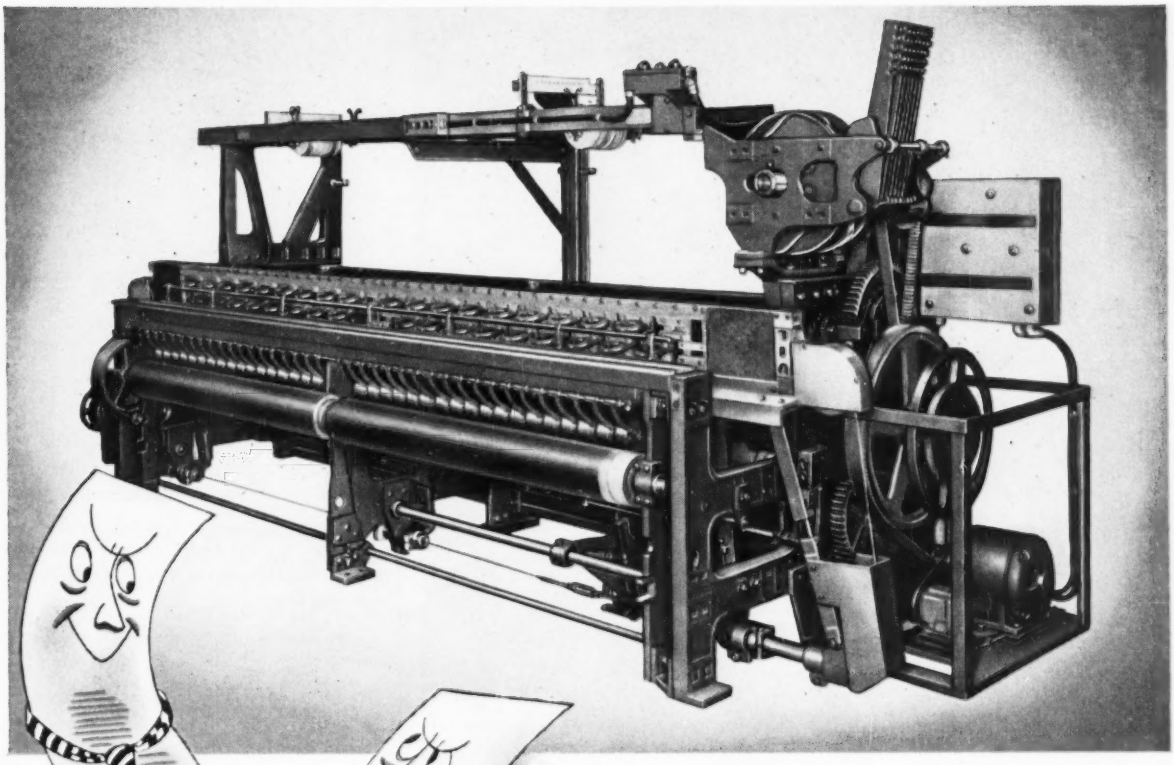
Random Requests for a Pointed Article

" . . . please send me five copies." —W. Marion Kirby, Jr., assistant superintendent, **Wade Manufacturing Co.**, Wadesboro, N. C.

" . . . if possible would like to obtain 100 copies."—H. Lloyd Pike, industrial relations manager, **Standard-Coosa-Thatcher Co.**, Chattanooga.

" . . . will you please send us six copies."—William Zopfi, vice-president, **Waumbec Mills, Inc.**, Manchester, N. H.

" . . . purpose of this letter is to request that you please forward to me five reprints."—George S. McElroy, plant manager, **Owens-Corn-**



C & K

is not

"Narrow-Minded"

about NARROW-FABRIC Looms

...we make them both—long AND short!

Yes, in this modern C&K design, the distance between loomsides can be varied to accommodate any number of shuttles and spacings, as required by individual mills.

And that's only the beginning of the list of newsworthy features of this important new loom:

• High speed with low maintenance • Rigidity of all-metal frame • One-piece magnesium laybeam • No clutch . . . loom crankshaft direct-connected to motor by timing belt • Wide range of weaving speeds by changing pulley on motor • Electric braking by plugging switch • Cam, head or dobby harness motion • And many other new C&K features.

Remember: This new C&K Narrow-Fabric Loom can be built with any number of shuttles and spaces... either single-deck circular, double-deck circular, single-deck straight, double-deck straight, straight-shuttle 2-bank cross-shot, or single-deck 2-bank straight drop shuttle. *Never before in the history of narrow-fabric weaving has there been a loom of such versatility as this one.* So whatever your requirements for narrow fabrics... tapes, webbing, elastic, ribbon, or what have *you?... this is your loom! Get in touch with C&K today.*

This invisible trademark stands back of the trademarks of the World's Finest Woven Fabrics

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WORCESTER 1, MASSACHUSETTS, U. S. A.

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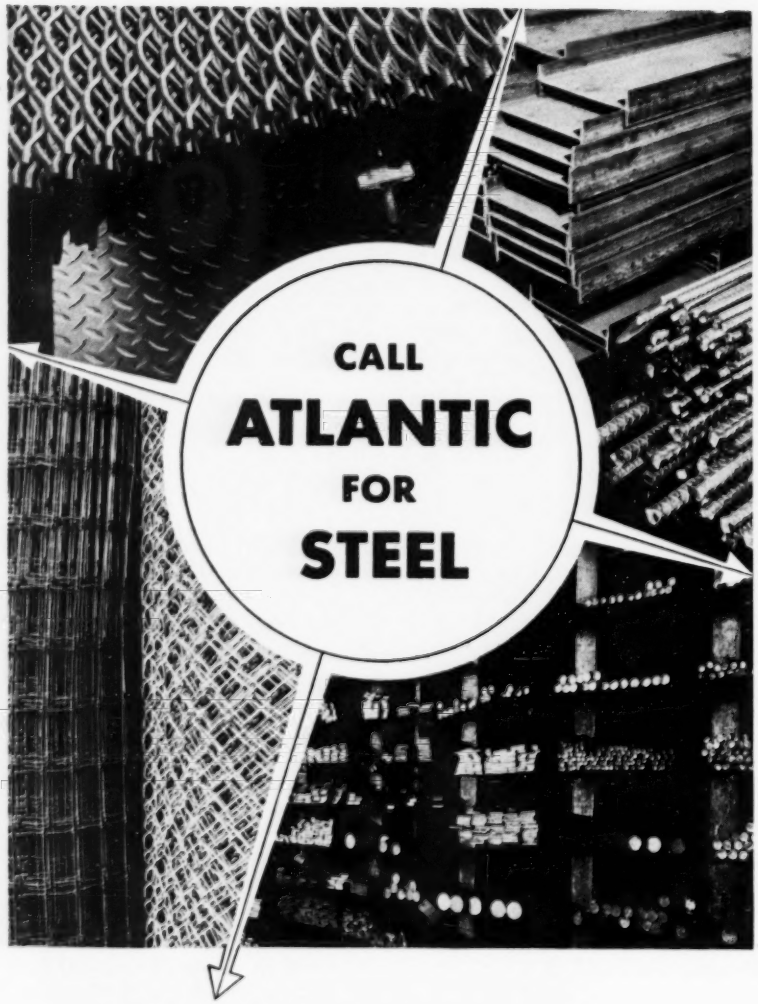

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FROM our spacious new warehouse, we are making more and faster shipments than ever before to customers throughout the South.

Our warehouse was constructed with *service foremost in mind:* (1) To provide a wider variety of stock items, (2) To make faster deliveries, (3) To furnish a full range of warehouse services—from metallurgical advice to sawing, shearing or flame cutting.

More and more steel users are finding that our service is geared to their needs. Write, wire or telephone when you want steel *in a hurry*—one piece or a carload!

AMERICAN STEEL BETTER DISTRIBUTION WAREHOUSE ASSOCIATION

"Service in Step With Southern Progress"

WAREHOUSE DIVISION

Atlantic Steel Company

ATLANTA, GEORGIA • EMERSON 3451

Shorts and Remnants

ing Fiberglas Corp., Anderson, S. C.

" . . . would like, if available, about ten copies."—Louis L. Jones, Jr., vice-president and secretary, **Canton (Ga.) Cotton Mills.**

" . . . please send us a dozen reprints."—Thomas F. Moore, Jr., **George C. Moore Company,** Westerly, R. I.

" . . . please send me three of the reprints."—German H. H. Emory, president, **Riegel Textile Corporation.**

" . . . greatly appreciate if you would send us 75 copies."—M. A. Bard, president, **Skyland Hosiery Mills, Inc.**

► And many, many more. All were served.

Splendid!

" . . . your 'Dyeing, Bleaching and Finishing Manual' which came a couple of days ago . . . wish to congratulate you for producing such a splendid group of articles. . . "

C. J. SHANNON
Vice-President
Robert & Company Associates
Atlanta, Ga.

Flaming Fabrics!!

" . . . please forward one copy of the article 'The Flammable Fabrics Act' by George Buck which appeared in the October issue of your magazine."—G. H. Sweet, Jr., purchasing agent, **The Masland Duraleather Co.,** Philadelphia.

" . . . this article entitled 'Flammable Fabrics Act' . . . invaluable appraisal of the Act . . . should like to bring it to the attention . . . appreciate three copies. . . "—G. C. Whalen, **Joshua L. Baily & Co., Inc.**

" . . . several of my associates—just as was I—are much impressed with that article. . . would like to get twelve reprints. . . "—Earle R. Stall, **Cone Mills Corp.,** Florence Division, Greenville, S. C.

" . . . please send us two copies."—Arthur K. Beaton, assistant treasurer,

when you use

Superlitefast®

direct dyes

on rayons, mixed fabrics and cottons,

everybody benefits, all along the line—

- **the dyer pleases the manufacturer**
- **the manufacturer pleases the store**
- **the store pleases the consumer**

Superlitefasts are the

fastest-to-light direct dyes known!

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Chemical Company, Inc.

READING, PENNSYLVANIA

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WORLD FAMOUS TRADE NAMES OF THE
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Manufacturers of
Flat Steel Heddles • Loom Harness Frames • Loom Reeds (Pitch Band and All Metal, Regular and Stainless Steel Wire) • Loom Harness Accessories • Automatic and Hand Threaded Southern Shuttles (Tempered Dogwood, Persimmon, and Fibre Covered) • Warp Preparation Equipment • Electrode Rods (Fibre and Plastic Insulation) • Drop Wires • Creel Stop Motions • Pigtail Thread Guides • Tension Washers • Light Metal Stampings • Hard Chrome Plating • Hard Chrome Plated Parts • Rayon Cake Holder

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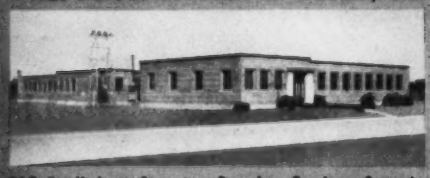
STEEL HEDDLE COMPANY OF CANADA, Ltd.



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STEHEDCO and SOUTHERN Products
"Weave the World's Needs"

I-O-IX

Shorts and Remnants

Merrimack Manufacturing Co., Lowell, Mass.

" . . . please send three copies."—**United Merchants Laboratories, Inc.,** New York 1, N. Y.

" . . . will you kindly send thirty additional copies."—**Iselin-Jefferson Co., Inc.,** New York.

" . . . kindly send us six copies."—H. B. Beck, **Wm. E. Hooper & Sons Co.,** Baltimore.

" . . . will appreciate very much your sending to us five reprints."—Leon Tigler, chemist, **Kerr Bleaching & Finishing Works, Inc.,** Concord, N. C.

" . . . would be glad if you would send us three copies."—William Stafford, technical director, **Bradford Dyeing Association,** Westerly, R. I.

" . . . kindly mail us two copies."—L. T. Scofield, **Textile Proofers, Inc.**

► George Buck and his flaming fabrics act article brought in the inquiries for additional copies. Such a good job, wish we'd done it ourselves instead of 'letting George do it.' There's hardly a textile man alive who now doesn't have a copy because the reprints of Mr. Buck's 'The Flammable Fabrics Act' story have been distributed by these organizations: American Cotton Manufacturers Institute, National Association of Finishers of Textile Fabrics, Underwear Institute, National Federation of Textiles, Association of Cotton Textile Merchants of New York, National Cotton Council of America, Tufted Textile Manufacturers Association, and Rhode Island Textile Association. Oh, yes! And 23,750 copies in October TEXTILE INDUSTRIES.

Personal NOTES
ABOUT MEN YOU KNOW

A surprise party was given for **T. Scott Roberts** by employees, relatives, and friends on his 75th birthday and 48th year of service as president and chairman of the board of Adelaide Mills, Anniston, Ala.

Carroll B. Little has been appointed manager of the Worsted Department of the American Thread Co. in Willimantic, Conn. He was formerly in Atlanta, Ga., as staff assistant to E. B. Shaw, vice-president of manufacturing.

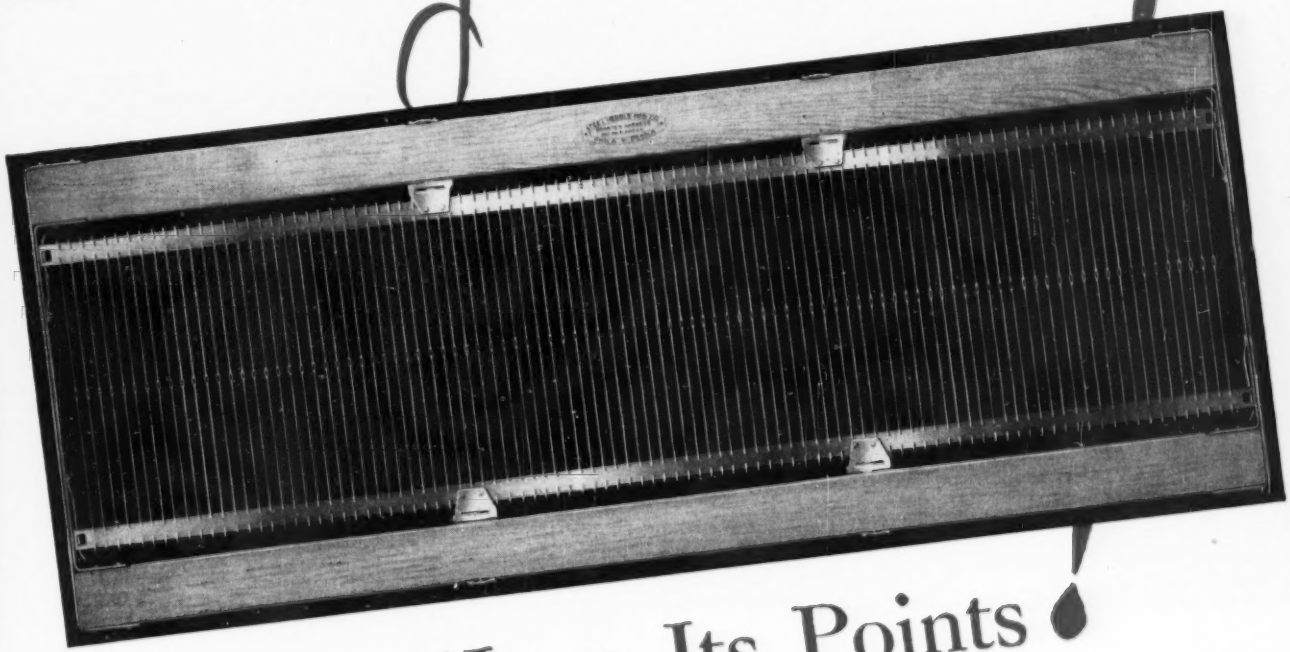
Harry Mullen succeeds William Barnwell, resigned, as assistant to the president at Angle Silk Mills, Inc., Rocky Mount, Va. He was formerly with Burlington Mills, Glen Raven Silk Mills, and Morgan Mills.

Fred F. Van Atta has been appointed special assistant on the headquarters staff of The American Society for Testing Materials. He was recently manager of the Building Div., Carolinas Branch, Associated General Contractors.

Previously with the Providence plant of the American Woolen Co., now closed, **Martin Lazzareschi** is now in the wet finishing department of the Puritan Mills, Plymouth, Mass., of the same firm.

Eugene H. Timanus, vice-president of Holly Mills, Inc., subsidiary of American & Efird Mills, Inc., has also been made general manager in charge of the entire worsted production of American & Efird. This includes the operation of Spun Fibers, Inc., Lenore, Pa., and Holly Mills, Inc., which will continue to operate plants at Laconia, N. H., and Mt. Holly, N. C. **Richard Clarenbach,** formerly with Walter Mfg. Co., of

Being Firm ... !



Does Have Its Points !

The points when considering appropriate FRAME CONSTRUCTION built for the fabrics they were intended for, added up are;

1. STRENGTH AND RIGIDITY — To take any punishment high speed production inflicts.
2. LIGHTNESS IN WEIGHT — Provides ease of handling plus the strength required.
3. Constructed so that all wood parts are made from selected seasoned lumber free from knots; all metal parts being of rust resisting metal and designed for fool proof function of the frame.
4. Smooth face — no parts protruding — no rub, no cut.
5. Finger Tip controlled Heddle Bars of the finest tempered steel for quick release.

STEHEDCO FRAMES will always be the Frames for high speed production, because they were designed for it. There is a STEHEDCO FRAME constructed for the material you are weaving equipped with Stehedco patented Drawtex Heddles.

Consult your nearest Stehedco or Southern Field Engineer for the information you require.

Stehedco and Southern
WORLD FAMOUS TRADE MARKS OF THE
Steel Heddle
Mfg. Co.

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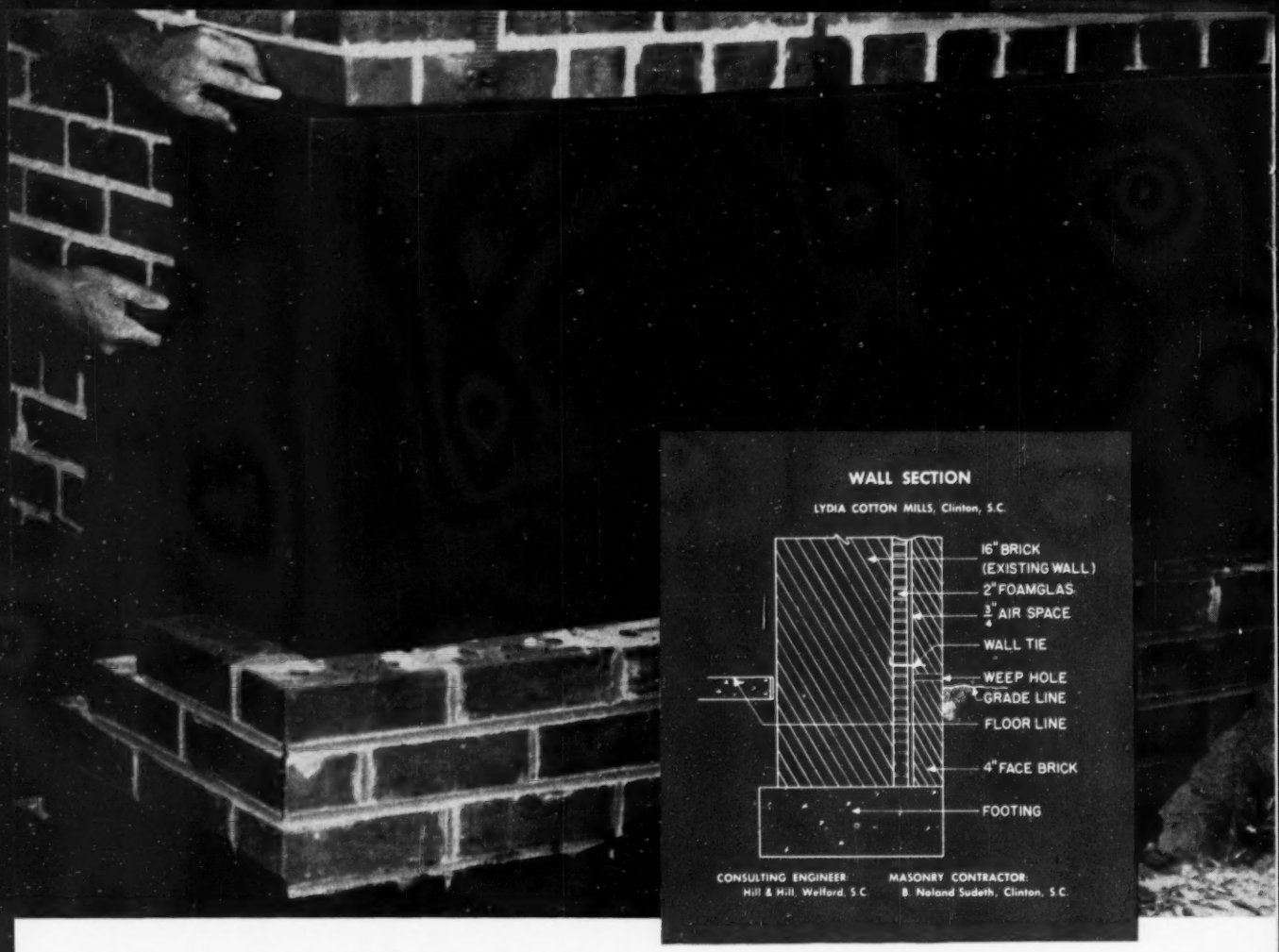


"FOAMGLAS® INSULATION on the outside stopped sweating on the inside,"

reports P. Silas Bailey, President, Lydia Cotton Mills

P. SILAS BAILEY
President and Treasurer
Lydia Cotton Mills
Clinton, S.C.

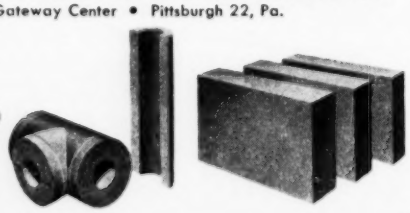
"Wet weave room walls were obvious evidence that even 16-inch masonry walls weren't insulation enough to enable us to maintain the precise humidity and temperature we needed," recalls P. Silas Bailey, president and treasurer of Lydia Cotton Mills, Clinton, S.C. "The addition of FOAMGLAS insulation on the *outside* of the existing walls stopped the sweating on the inside."

While ordinary insulations absorb moisture which cuts efficiency, FOAMGLAS' sealed glass cells are impervious to water vapor. This means that the rigid blocks of cellular glass can be depended on to help keep indefinitely the exact humidity and temperature required in a weave room.

Three new booklets tell how fireproof, strong, lightweight FOAMGLAS can benefit *you*. Please write now for sample and booklets, indicating if you are interested in insulation for buildings, piping or tanks and other equipment. Address inquiries to: Department AG-123 . . .

PITTSBURGH CORNING CORPORATION
One Gateway Center • Pittsburgh 22, Pa.

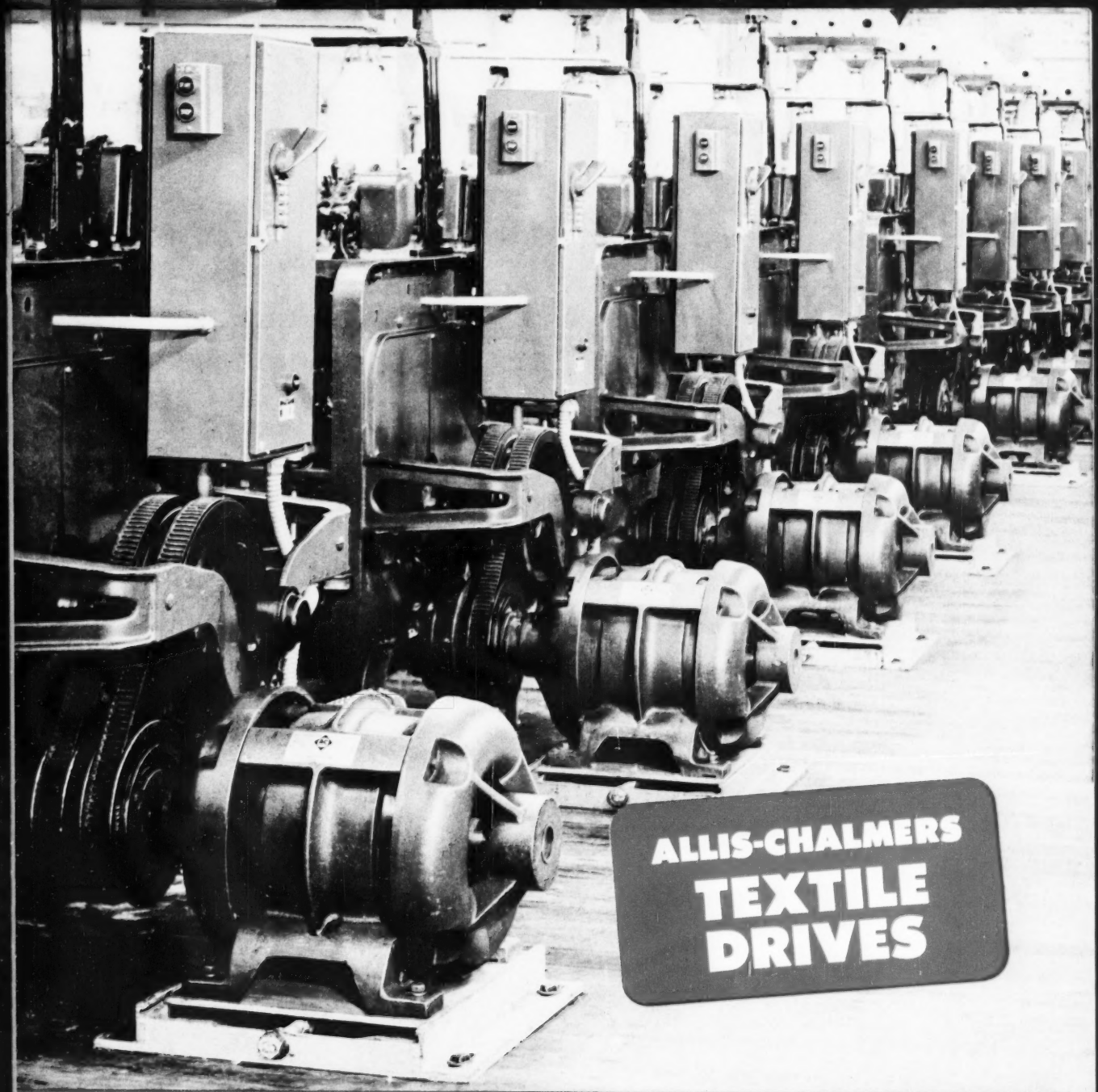
FOAMGLAS®



the cellular glass insulation . . . it stays dry!

PITTSBURGH PC® CORNING

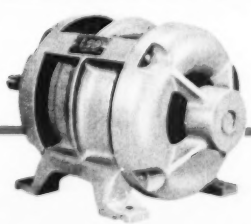
Pittsburgh Corning also makes PC Glass Blocks



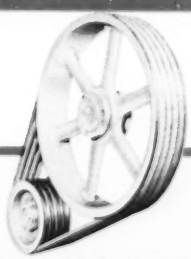
One Reliable Source for...

Everything from Power Line to Driven Shaft

Control



Motor



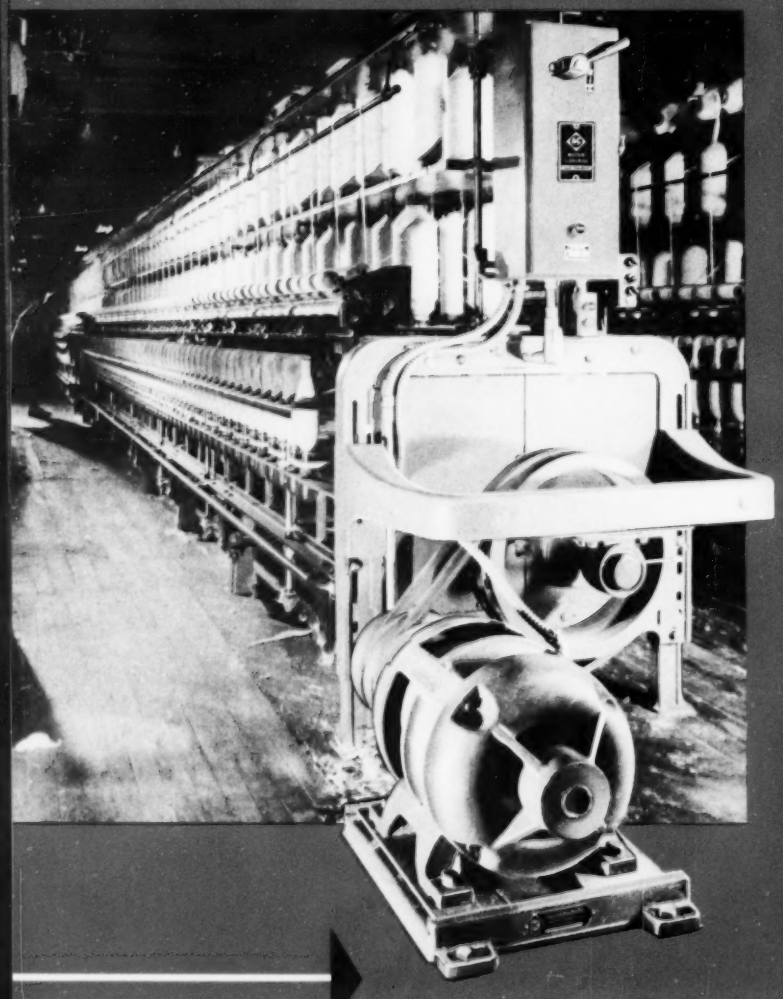
Texrope V-belt Drive

A-4202

Designed to Work Together

Motor Control

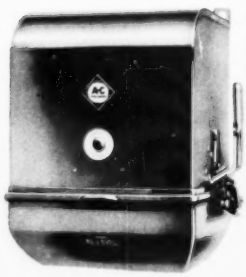
Allis-Chalmers motor control is available for most textile mill applications. Included in this line are manual and magnetic full voltage and reduced voltage starters. They are available in general purpose as well as special purpose enclosures. Typical are the loom switches, slow speed starters for roving frames, and combination starters, commonly used on spinning frames.



Loom switch

Combination starter

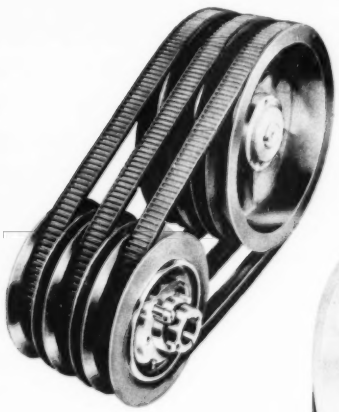
Reduced voltage starter



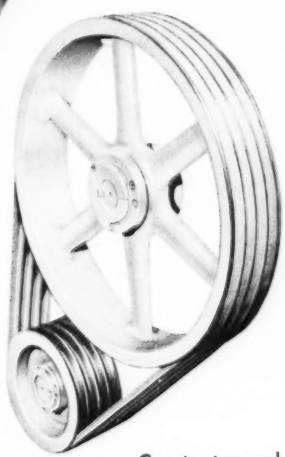
Everything from Power Line to Driven Shaft

Texrope Drives

Texrope V-belt drives are available in a complete range of sizes for both fixed and variable speed. Wide range *Vari-Pitch* drives like the one shown below add flexibility to spinning operations by providing the exact speed needed for a wide variety of yarn numbers. These drives provide nearly 2:1 speed range. Other drives include standard range *Vari-Pitch* drives for speed variations of 15 to 25%, and constant speed *Texrope* V-belt drives. These provide smooth, quiet, efficient power transmission for air conditioning fans and other mill equipment.



Wide range *Vari-Pitch* drive



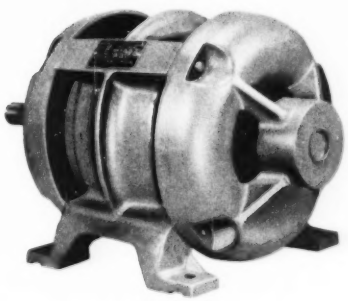
Constant speed *Texrope* drive

Standard range *Vari-Pitch* stationary control drive

Texrope, Quick-Clean and *Vari-Pitch* are Allis-Chalmers trademarks.

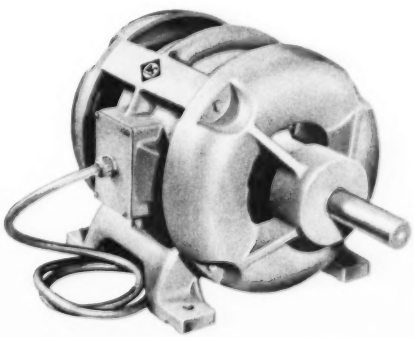
Motors

There's no place for lint to hide in any of these motors. All incorporate the same basic time-proved *Quick-Clean* motor design whether they're built for roving frames, conventional spinning frames, or special spinning frames. They're all non-clogging motors designed and built to serve in the humid, lint-laden atmosphere of textile mills. Other Allis-Chalmers motors are supplied for loom, card, air cleaning, air conditioning, and general mill service. In addition, these motors are backed by a nation-wide network of "Certified" Service Shops.



Quick-Clean motor for conventional spinning frames

Special motor for special spinning frame



Slow starting roving frame motor

ALLIS-CHALMERS

A-C ALLIS-CHALMERS

Here's

Specialized Service to Back These Drives

Allis-Chalmers distributors and district offices are equipped to provide the application help you need. In addition, the distributors listed below operate "Certified Service" shops. Here factory-approved methods and parts are used to assure like-new service from your motors, transformers and control.

Allis-Chalmers District Offices and Certified Service Shops in Textile Areas

Allis-Chalmers textile specialists are located in the following cities:

Atlanta, Georgia
Birmingham, Alabama
Boston, Massachusetts
Charlotte, North Carolina
Chattanooga, Tennessee
Dallas, Texas
New Orleans, Louisiana
Providence, Rhode Island
Richmond, Virginia

Certified Service Shops

ALABAMA
Birmingham
Electrical Repair & Service Co.
2411 First Ave., South
Montgomery
Standard Electric Co.
505 N. Decatur St.

CONNECTICUT
Hartford
Charles H. Leppert
100 Walnut Street
Waterbury
Electric Motor Repair Co., Inc.
2101 S. Main Street

GEORGIA
Albany
Georgia Electric Co.
927 Roosevelt Ave.
Atlanta
Bearden-Thompson Electric Co.
1085 Bankhead Ave., N.W.
Columbus
Smith-Gray Electric Company
710 Third Ave.

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New Orleans
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3227 Magazine Street
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Shreveport Armature &
Electric Works, 800 Spring St.

MAINE
Brewer
Stanley J. Leen Company
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MASSACHUSETTS
Lawrence
Roland B. Glines Co.
265 Lowell Street
Springfield
Electric Motor Repair Co.
11 Park Street

NEW HAMPSHIRE
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A. S. Tracy
28 Green Street

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Southern Electric Service
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Southern Electric Service
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Rocky Mount
Hammond Electric Company
824 S. Church Street

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Spartanburg
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Standard Armature Works
LaFollette, Tenn.
Memphis
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Co., Inc., 62 Auction Ave.

TEXAS
Amarillo
G. E. Jones Electric Company
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Industrial Electric Equipment
Co., 1119 S. Industrial Blvd.
Houston
Roy A. Berentz Co.
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13 South 17th Street
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ALLIS-CHALMERS

Get More Information

Allis-Chalmers Manufacturing Company, Milwaukee 1, Wisconsin

Please send me literature checked below.

- ☐ Handy Guide to Motor Selection 51B6052
- ☐ *Quick-Clean* Textile Motors 51B6055B
- ☐ Across-the-Line Starters 14B7132
- ☐ Reduced-voltage Starters 14B7215
- ☐ Wide Range Stationary Control Sheaves 20S7590
- ☐ *Vari-Pitch* Drive Engineering Data 20B7499

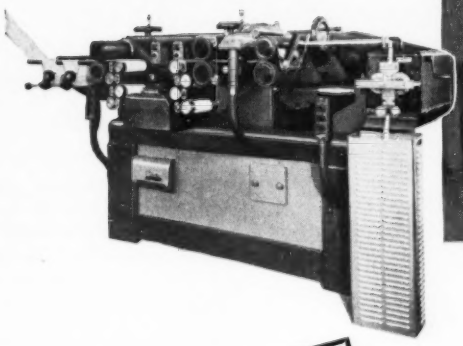
Name..... Title..... Company.....

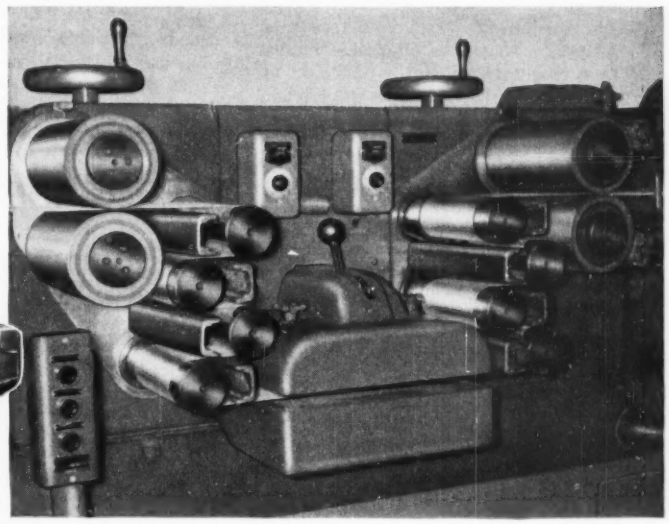
Street..... City and State.....

A-4202

SOFTER HAND

and stronger fibers with the TURBO STAPLER





Drawing zone of the Turbo Stapler showing nip and snub rolls, and heating plates. Left: The Turbo Stapler, tow feeds in on the left, crimped staple drops into roving can on the right.

Facts About TURBO Tow Processing . . .

LOWER COST

(1) Less capital expense for machinery, less space, less skilled labor.
(2) Pre-roving operations reduced to a new minimum — drawing can be simplified because sliver is amazingly even and parallel.

VERSATILITY

(1) handles all synthetic tow.
(2) minimum down-time for change over to different fibers, deniers, staple lengths or crimp.
(3) additional end uses for your present inventory through alteration of staple length, filament denier, crimp and tenacity.

EVEN YARNS

(1) sliver is more even — it's made from uniform tow.
(2) no co-terminal fibers — natural staple length variation.
(3) staple length can be controlled to match natural fibers — better blends.

The Turbo Stapler — the new short-cut to synthetic fiber spinning — produces a sliver of controlled staple length from tow. It will process tow up to nine inches wide, tension and heat it, remove crimp and reduce denier if desired, reduce the tow to staple and then replace any desired crimp — all without skilled labor.

Illustrated above is the drawing zone. Here the tow passes through the two nip rolls on the left, then through four snub rolls. The tow then goes between two heating plates with individual thermostats. The top plate may be raised and only the bottom one used. After being heated the tow passes through four more snub rolls and two nip rolls. These operate at a greater speed than the first set of rolls. The resulting stretch, which is adjustable, can give the fibers a softer, more luxurious hand. Up to 50% more fiber strength.

The basic purposes of the drawing zone are to drive off excessive moisture, to tension fibers for even breaker zone feeding, and to help form the tow to an even ribbon. It's the extra benefits though, that make a Turbo Stapler so valuable. You get the desired hand — softer or crisper. Depending on fiber characteristics, you can reduce denier one half. You get increased tensile strength. You get fibers crimped exactly as you want them. You can drastically cut drafting and doubling operations.

Write for a copy of the "Turbo Stapler". It gives the complete story on the new, efficient short-cut to synthetic fiber spinning.

TURBO SINCE 1929

TURBO MACHINE COMPANY, LANSDALE, PA., U. S. A.

Makers of Precision Hosiery Finishing Machines — Crimpers — Crimp Setters

Personal NOTES ABOUT MEN YOU KNOW

Philadelphia, Pa., has been appointed general manager in charge of manufacturing for both mills operated by Holly Mills, Inc., with headquarters in the Laconia offices.

Tom L. Arnett heads the newly established Product Development Department, Research and Development Division, Callaway Mills, Co., LaGrange, Ga. For seven years he was general superintendent of the Valway and Dye Plants. * * * Recent promotions at the Valway Plant are: **W. J. Brooks,** supervisor of warehouse operations, **Handley Lewis,** production supervisor, **J. C. Strickland,** overseer, carpet and rug inspection, and **W. H. Walls,** overseer, carpet sewing. * * * At the Hillside Plant, **F. Springer Foster** became overseer of designing and development, and **Howard L. Lester,** overseer of the supply department at the HDV Division.

Charles F. Myers, Jr., has been elected treasurer of Burlington Mills Corp. and will continue as vice-president. He succeeds Eugene Rowe, resigned. **Frank L. Asbury, Jr.,** has succeeded **John A. Boland, Jr.,** as head of the decorative fabrics manufacturing division. Mr. Boland is now in charge of the ribbon manufacturing division, with headquarters in Greensboro, N. C.

Superintendent in charge of weaving at Dallas (N. C.) Mills, Inc., is **C. T. Killian, Jr.** For the past two years he has been with Weldon Mills, Emporia, Va.

Elton D. Crenshaw is the new production manager at Drayton Mills in Spartanburg, S. C. **T. C. Jolly** succeeds J. B. Tollison, resigned, as superintendent.

The recently formed Dole-Suncook, Inc., manufacturers of woolen yarn, has appointed **Edward L. Kelton** superintendent. He was previously boss carder and spinner at Sulloway Hosiery Mills.

Superintendent of Canadian Cottons Ltd.'s new finishing plant in Cornwall, Ontario, is **Ernest Sewell,** formerly located at Dominion Textile Mills' finishing plant in Magog, Que.

Harold A. LeDuc is the new manager of Dominion Textile Mills Ltd.'s Magog, Que., finishing plant. Mr. LeDuc came to Dominion Textile from Werner Textile Consultants.

Resigned as chairman of the board of Duplan Corp. is **Ernest C. Geier;** he will continue as director and member of the finance committee. * * * **Albert Hasler** has been awarded the Company's Ernest C. Geier Merit Award Bronze Medal for his achievements in the technical phase of the synthetic fabric industry. He has been in charge of research for the corporation and is also retiring.

Paul M. Platzman, formerly associate editor of TEXTILE INDUSTRIES magazine in the New York area, has become associated with John Mather Lupton Company, Inc., New York City advertising and public relations agency, as manager of the news and feature bureau.

The A. French Textile School of Georgia Institute of Technology in Atlanta, Ga., has three new faculty members: **Ralph C. Lathem,** assistant professor of yarn manufacturing, came from Chicopee Mfg. Corp.'s

NON-FLUID OIL

TRADE MARK REGISTERED

THE WASTE-LESS LUBRICANT

NON-FLUID OIL, the drip-less, waste-less lubricant is way-out-in-front in the textile industry because it outperforms other lubricants on every type of equipment.

Textile men agree that NON-FLUID OIL stops drip and spatter, outlasting ordinary oils many times to reduce both *lubricant and application* costs. What's more, it practically eliminates loss from oil spot "seconds," steps up production and cuts down-time.

NON-FLUID OIL in grades suited to every type machine has been perfected by 57 years of specializing on production of lubricants for the textile industry.

Write for instructive bulletins and free testing samples stating where you wish to try them.

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Southern District Manager: Lewis W. Thomason, Jr.
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NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture.

From Bale Opener to Dryer

SARGENT PREPARATORY EQUIPMENT

ANY FIBRE • ANY BLEND

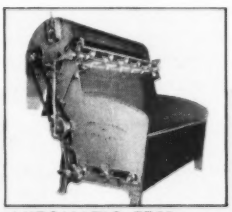
For those important first steps in textile manufacturing . . . opening, blending, picking, washing, extracting, drying. It's in these first steps that the quality of the fibre is set for all time. And here, too, is established the behavior pattern for drawing, carding, spinning, weaving.

Designed to combine maximum work-loads with careful fibre handling.

The SARGENT line starts the fibres RIGHT!

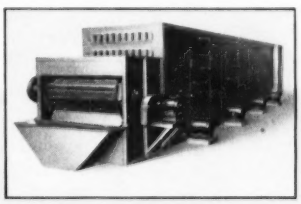
Leading mill men know this fact and rely on SARGENT Preparatory Equipment to make their work easier.

May we help *you* streamline your fibre processing? Just write your nearest SARGENT representative, or write us direct.



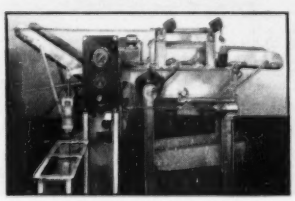
AUTOMATIC FEED (Model N)

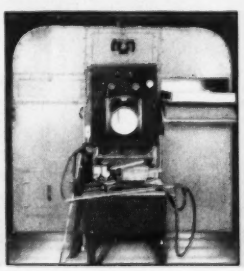
Hopper type . . . continuous, automatic . . . compactly designed to conserve floor area . . . high production . . . thorough stripping action . . . easily adjustable evener comb, either rotary or oscillating.



CONTRA-FLOW DRYER

Counter-air-flow principle provides highly economical, rapid drying of all fibres . . . continuous, automatic, high production unit . . . very low steam consumption.



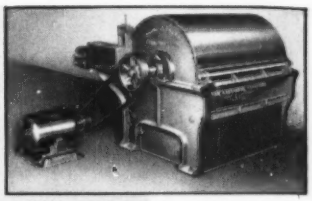


THE SARGENT LABORATORY TWINS

Junior size laboratory models of SARGENT'S Washer and Dryer to help you determine the one best way to set up your production line without muss, fuss or bother of interrupting plant work.

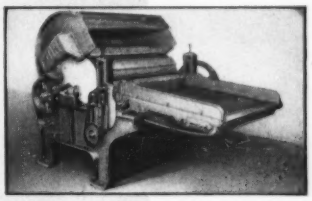
MIXING PICKER (Heavy Duty)

Beautifully adapted to continuous blending systems . . . single or double pairs of feed rolls, adjustable nip, variable speed drives.



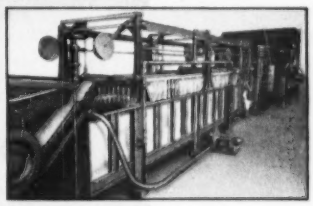
WET and DRY PICKER

As efficient for opening and picking synthetic staple as it is for wet cotton prior to drying . . . widths 18 to 72 inches.



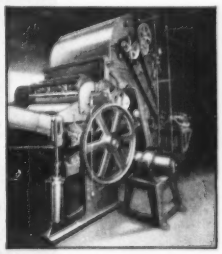
STAINLESS STEEL WASHER

Acid resistant, stainless steel throughout . . . ideal for scouring, bleaching, acidifying . . . the finest, most modern, of all washers.



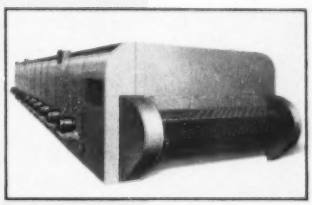
EXTRACTOR

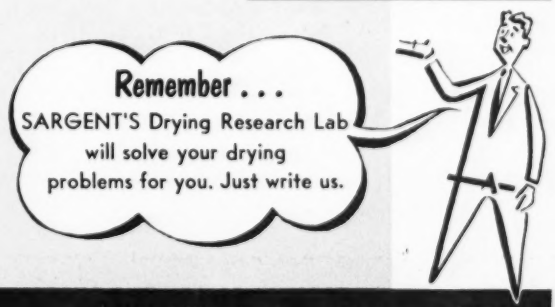
Sargent-designed pneumatic squeeze rolls adjustable up to 10 tons pressure . . . completely automatic, continuous production . . . full controls standard equipment.



STOCK DRYER

Leader in conventional down-draft drying . . . remarkably compact, takes little floor space, yet has unusually high-per-hour production.





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YOU ADD TO THE COST OF YOUR PRODUCT
AND NOTHING TO THE VALUE

The answer is simple—
put your packages on conveyors—
put them on **ALVEY** Conveyors

An experienced Alvey Engineer is available to confer with your technical staff in reviewing your present conveyor system and package handling methods. There have been many interesting cost saving devices and ingenious innovations developed recently in package handling equipment that may have application in your plant. Do call in an Alvey materials handling expert. No obligation, of course.

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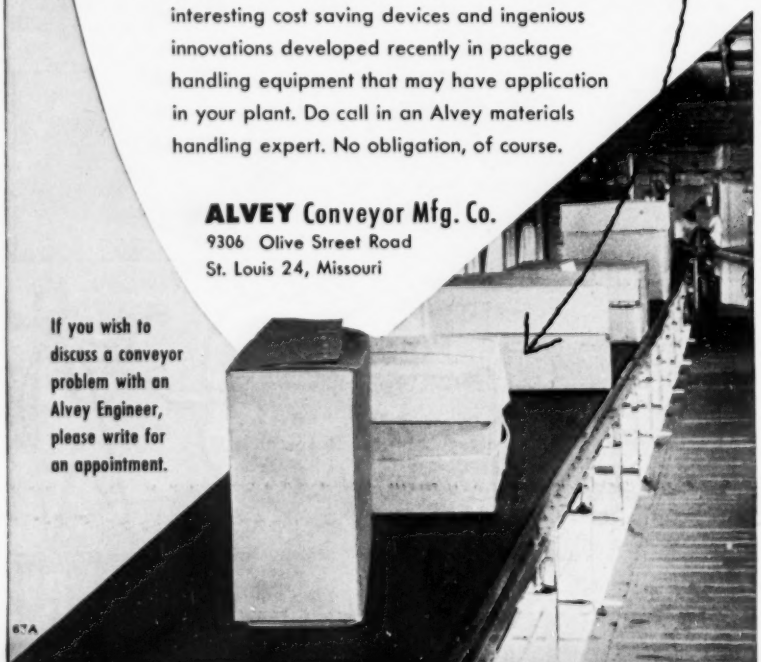
If you wish to discuss a conveyor problem with an Alvey Engineer, please write for an appointment.



ALVEY

Personal NOTES ABOUT MEN YOU KNOW

Lumite Div. in Cornelia, Ga.; **William Postman,** assistant professor of chemistry and dyeing, was with American Enka Corp. at Enka, N. C.; and **Sam M. Willis,** instructor of weaving, was previously at Westboro Weaving Co., Greenville, S. C.

Additional appointments to the staff of Greenwood (S. C.) Mills' Durst Plant are: **Ralph Kelly,** master mechanic, and **Talmadge F. Snipes,** overseer of the spinning room. Both men have been with the company for about 15 years.

Leo Norton, formerly at Queen Printing & Dyeing Co., has been named superintendent of Greenwich Printing & Dyeing Co., East Greenwich, R. I.

Huntsville (Ala.) Mfg. Co. has announced **Hewlett G. Harris** as new spinning overseer, **W. L. Reece,** weaving overseer, and **Bill Moore,** overseer of preparation department. Mr. Harris came to Huntsville from Crystal Springs Bleachery, Chickamauga, Ga.; Mr. Reese from Pacific Mills in Columbia, S. C.; and Mr. Moore was promoted from second hand in Huntsville's weaving department.

Lane Cotton Mills, New Orleans, La., have appointed **James S. Bonner** personnel director. He has been with Lane for two years, serving as superintendent of operations.

Among the sixteen recently appointed to the Board of Governors of the Philadelphia Textile Institute are: **J. Marshall Cole,** Cold Spring Bleachery; **Edwin L. Dale,** Pharr Yarns, Inc.; **Horace T. Greenwood,** Globe Dye Works; **M. Earl Heard,** West Point Mfg. Co.; **William I. Kent,** Kent Mfg. Co.; **Edwin G. Michie,** Andrew Y. Michie and Sons; **Edgar L.**

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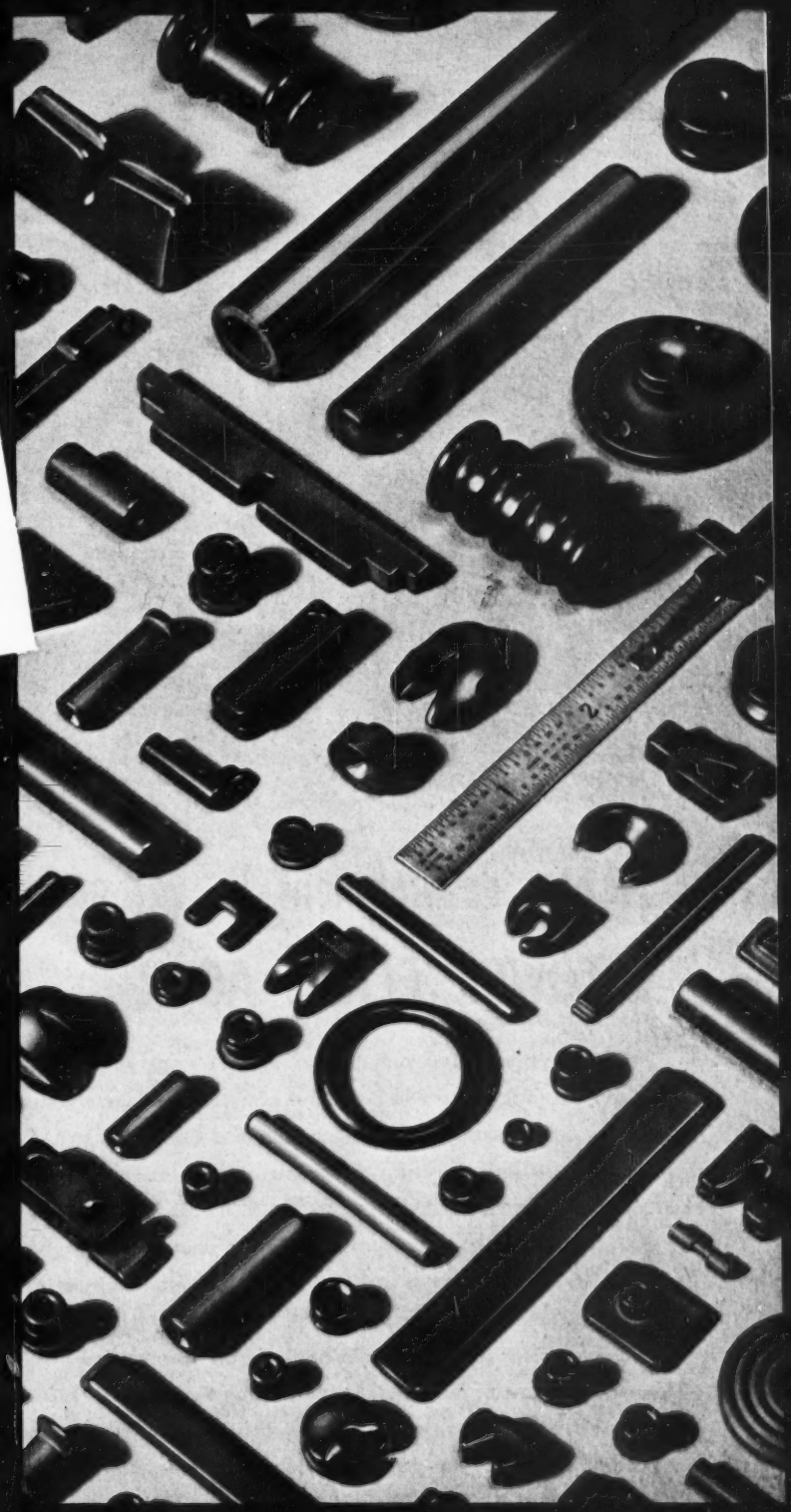
ALSIMAG® 193

ELECTRICALLY CONDUCTIVE THREAD GUIDES

(U. S. Patent No. 2,369,266)

RECOMMENDED by leading producers of synthetic yarns and by leading manufacturers of textile machinery to assist in the control of static electricity and to produce better quality yarn. Stock designs available for most equipment. Custom made at reasonable cost for special requirements.

Test samples from our files on request.



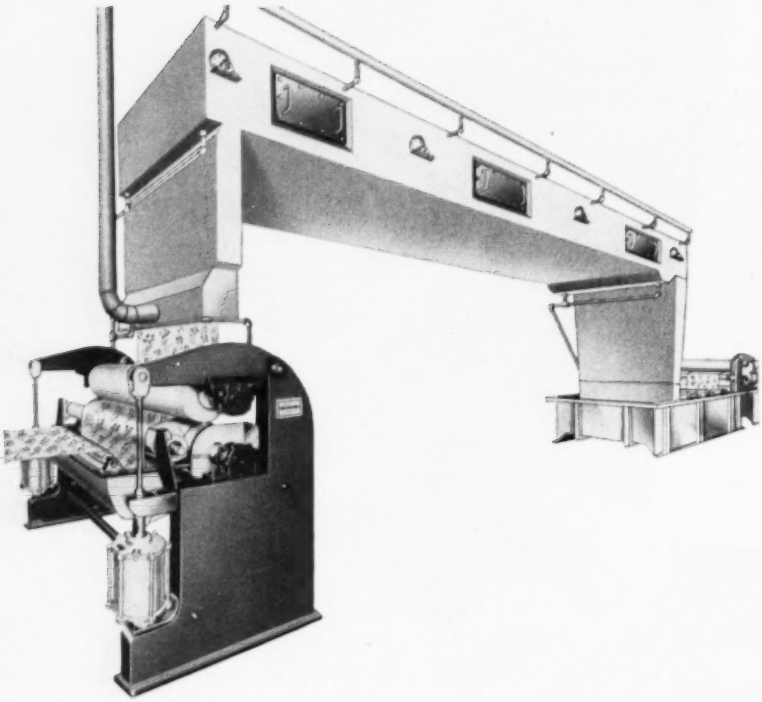
52ND YEAR OF CERAMIC LEADERSHIP

AMERICAN LAVA CORPORATION

A Subsidiary of Minnesota Mining and Manufacturing Company

CHATTANOOGA 5, TENNESSEE

SALES ENGINEERS: NORTH AND EAST: Jay S. Gosnell, 671 Broad St., Newark, N. J., Mitchell 2-8159. SOUTHEAST: Joe E. Spearman, 401 Belton Street, Charlotte, North Carolina, 4-1525. ALL OTHER AREAS: J. B. Shacklett, American Lava Corporation, Chattanooga 5, Tennessee, 5-3411. CANADIAN REPRESENTATIVE: Ian M. Haldane and Company, Post Office Box 54, London, Ontario, Canada. CONTINENTAL EUROPEAN REPRESENTATIVE: P. C. Huguenin Luzern, Gerbergasse 6, Luzern, Switzerland



A new development in vat ageing a TOWER FLASH AGER—

Makes it possible for you to age *vat prints in range* with open-width washing at speeds far above conventional agers. This New Tower Unit makes it possible for Chemical Padding, Flash Ageing, and Open-Width Washing to become one continuous process. You could also include a dryer in this range. These Tower Flash Agers *maintain excellent color values* even when operating at high speeds and their careful design prevents water spotting. Savings in steam consumption are considerable.

A Tower Flash Ager is custom built to suit your situation — horizontally to utilize overhead space, keeping floors clear, or it can be adapted vertically when height is available. In most cases you needn't relocate your present washer. A Tower engineer will be glad to discuss Flash Ageing with you — at no obligation, of course.

TOWER IRON WORKS

50 BORDEN STREET, PROVIDENCE 3, RHODE ISLAND

TEXTILE DIVISION

Personal NOTES ABOUT MEN YOU KNOW

Schlesinger, United Merchants and Manufacturers, Inc.; **Joseph Schmitz, Jr.,** Universal Dye Works, Inc.; **Richard B. Stehle,** Brehm and Stehle. * * * New appointments to the faculty are: **William A. Endriss,** associate professor of microscopy and testing; **George J. Gradel,** instructor of chemistry; **Robert Bokum,** professor in charge of evening school; **Martha E. Jungerman,** in charge of the color department; **Ercal Kaiser,** in charge of Jacquard department.

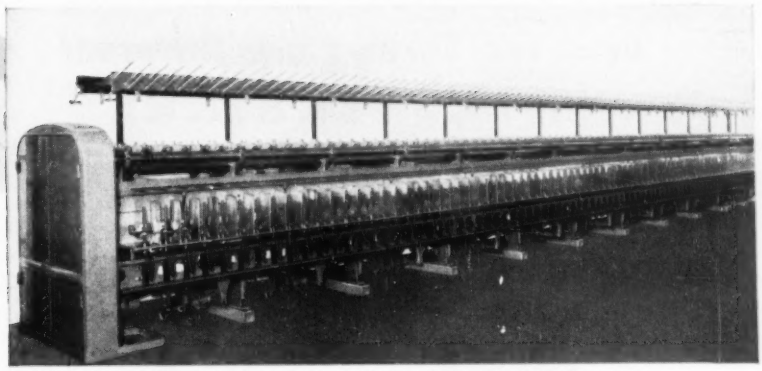
Changes in the faculty at Lowell (Mass.) Technological Institute are: Professor **Charles F. Edlund,** dean of faculty, succeeding Nathan G. Reed, resigned; Professor **John R. Robertson,** chairman of the division of general studies. **Dr. Felix S. Palubinskas** has been appointed professor in the engineering division to assist in adaptation of electronic devices to applications in the textile industry.

Harry E. Stehli has become chairman of the board and **Henry C. Monroe** has succeeded him as president of Stehli & Co., Inc. Mr. Monroe continues to serve as treasurer also. Robert H. Stehli of Zurich, Switzerland, is now senior vice-president, and Edward Smith continues in the capacity of executive vice-president.

Cyril P. Mangion has succeeded **Frank Diedrick** as production manager of Powdrell & Alexander, Inc., Danielson, Conn. Mr. Diedrick is now with the Dodeville (Mass.) Finishing Co.

Recent promotions at Alexander Smith, Inc., Yonkers, N. Y., include: **Edmund A. Leonard,** formerly assistant manager of quality control, to manager of process development and technical service; **Emory P. Mesereau, Jr.,** formerly research chemist supervisor, to manager of product research and development.

Riegel Textile Corp. has announced the promotion of **William O. Bankey,** with the organization for 27 years, to director of cost accounting for the corporation, with headquarters at Trion, Ga. **Earle Mauldin** of Ware Shoals (S. C.) Division has been appointed assistant controller and will travel between New York, Ware Shoals, Trion, and Greenville Divi-



The Whitin "C6" Twister . . . Fafnir Ball Bearing equipped, on gear mountings, tension pulleys, spindles, and lifting rod rollers.

PARTNERS in PROGRESS

Whitin (30 YEARS) ...FAFNIR

The Whitin "C6" Twister, one of the latest and most advanced machines in the Whitin line, reflects a greatly accelerated development program in textile machinery manufacturing. Designed for use by producers and processors of viscose rayon, acetate and other synthetic yarns, the "C6" offers many unusual features including the wide application of anti-friction bearings. In the head end, a combination of metal and laminated bakelite gears mounted on studs running on anti-friction bearings provides exceptionally quiet operation at extremely high speeds. This is an achievement of Whitin Designers and Fafnir Ball Bearing Specialists working side by side.

For over 30 years, Fafnir has been a Whitin supplier . . . providing ball bearings for original equipment and replacement. Good bearings aren't the sole answer to this relationship. Equally important is the Fafnir "attitude and aptitude" . . . a way of looking at bearing problems from the designer's viewpoint, an aptitude for supplying the precise bearings to fit the need. Maybe this combination can help you. The Fafnir Bearing Company, New Britain, Conn.

Fafnir Ball Bearing "Economy" Packages

Sealed & Shielded Radial Type Bearings

. . . with various arrangements of seals and shields.

Power Transmission Units

. . . featuring the Fafnir Wide Inner Ring Bearing with Self-Locking Collar

Special Textile Units

for practically every textile machinery application.

FAFNIR BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

Even the Screws are Different
in LESTERSHIRE
WOOD BARREL BOBBIN
with replaceable fibre heads

One of the reasons why Lestershire wood barrell bobbins give extremely long service under continuous hard use is that the fiber heads can be removed and replaced *without damage to barrels or heads*. This is made possible by our new patented screws.

●

The Patented Screws used to fasten the heads to the barrel are so shaped that their threads do not disturb the grain of the wood. They can be removed and put back in place many times when it is desired to change the heads for any reason, and always give maximum holding power.

Four of these "anchor thread" screws hold three times better than eight drive nails.

The barrels of *Lestershire* wood barrel Bobbins are of hard close-grain maple. They will not dent, chip, or crush.

The heads are of hard vulcanized fiber — most durable material for the purpose.

LESTERSHIRE SPOOL & MFG. CO.

Division of National Vulcanized Fibre Company

140 Baldwin Street, **Johnson City, N. Y.**

BRANCH OFFICES AND TECHNICAL SERVICES:

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Cincinnati, Ohio
Cleveland, Ohio

Greenville Textile Supply Co.
Greenville, S. C.

Odell Mill Supply Co.
Greensboro, N. C.

National Fibre Co. of Canada, Ltd.
Toronto, Ontario

Personal NOTES ABOUT MEN YOU KNOW

sions of the company. **Clayton Lewis** has succeeded Mr. Mauldin as office manager at Ware Shoals.

Joseph C. Cobert has resigned as vice-president of the Hugh Grey Hosiery Co., Concord, N. C., to move to Philadelphia, Pa., where he will manage his own business under the name of Joseph C. Cobert Associates, specializing in installation of Fidelity-Rolande Control systems in full-fashioned hosiery mills.

Obituaries

John E. Anderson, superintendent of Blackinton Mills, Conestee, S. C.

Jesse E. Baker, 66, overseer of building and maintenance, USEO division, Callaway Mills Co.

Victor H. Berman, 69, president of Onyx Oil & Chemical Co.

E. Albin Drechsel, 59, vice-president of the Victor Silk Hosiery Co.

Abraham Falik, 72, vice-president of Charles Peberdy & Son, Inc.

John B. Gilbert, 62, treasurer of Sonoco Products Co. and vice-president of Sonoco Products Co. of Canada and Joy Silk Mills.

Thomas A. Little, 65, vice-president of Vanette Hosiery Mills.

J. C. Mattox, 52, department supervisor and designer at National Weaving Co.

Lester J. Ross, 62, president of the Torrington (Conn.) Co., and director of many corporations, including Westfield Mfg. Co., Bantam Bearing Co., and Scovill Mfg. Co.

Lewis S. Trundle, 55, former secretary and manager of the Cotton Textile Institute.

Daniel F. Waters, 94, president of D. F. Waters & Sons, Inc.

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Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. DECEMBER, 1955

New "Tufton", Soil-Resistant Carpet Staple Developed by Avisco Research Team

Rayon fibers engineered to combat three main causes of carpet soiling

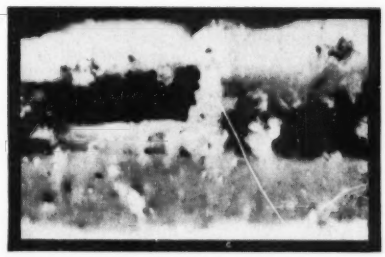
Tufton, a new Avisco rayon carpet staple with greatly improved resistance to soiling, has just been introduced. Developed by American Viscose research groups working with carpet manufacturers, Tufton minimizes the effects of the three main causes of rayon carpet soiling. These are soil occlusion, oil, and light absorption.

Smooth Fiber

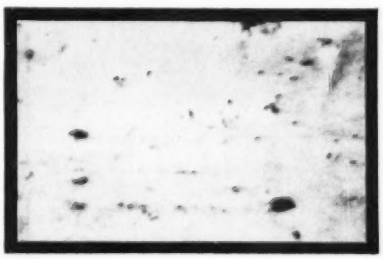
To overcome the mechanical occlusion of soil pressed into fiber surfaces or caught in the fiber crevices and serrations, surface irregularities common to the older fibers have been virtually eliminated in Tufton.

The Problem of Oil

The new Tufton has been specifically engineered to be relatively insensitive to oil, another of the main sources of soiling. Oil may come from contact with textile machinery and processing lubricants, or from oily backing materials.



Photomicrograph of surface of rayon carpet fiber magnified approx. 1500X, showing soil collected in crevices and serrations.



Photomicrograph of surface of new Tufton staple at same magnification, after same service. Dark spots are particles of delustrant.

Improved Light Reflection

Dirt embedded in a carpet decreases the amount of light reflected by the carpet. In Tufton this problem has been largely overcome by doubling the amount of delustrants spun into the fiber. This results in increased optical reflectivity.

Woven and Tested

In order to evaluate the Tufton staple, a large number of sample carpets have been woven. These include 100% Tufton, as well as various mixtures of Tufton and other fibers. These carpets were subjected to extensive service tests producing the data on which the development of Tufton is based.

Inquiries are cordially invited.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

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2 FABRIC DESIGN
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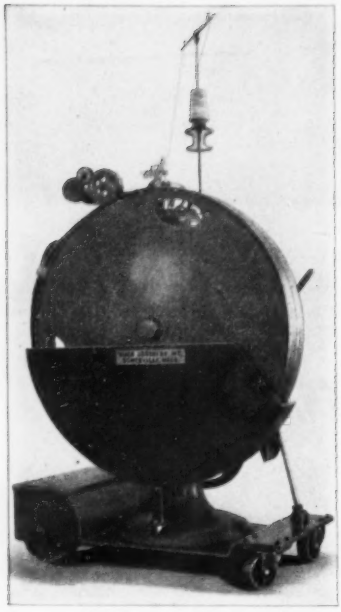
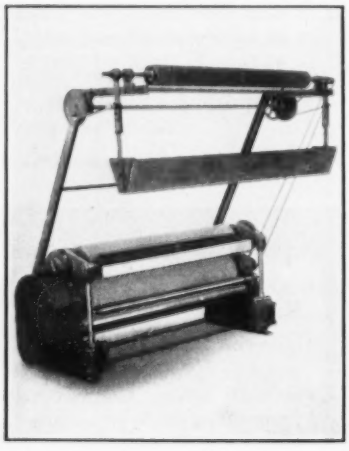
Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Philadelphia, Pa.; Providence, R. I.

*TMC & CCC



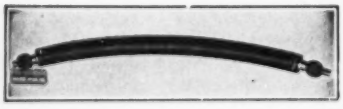
OUR PATENT "SUPREME" BUTT-SEAM GREY ROOM SEWING MACHINE

fitted with Merrow Head. This is a machine for use in the grey room where production is important. Simple in design

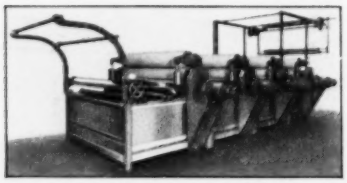


SQUEEZE ROLL UNIT OR PADDER

HEAVY DUTY ROLLER BEARING UNIT for extracting or padding. Pressure applied by air cylinders from 3 to 15 tons. Equipped with variable speed drive.

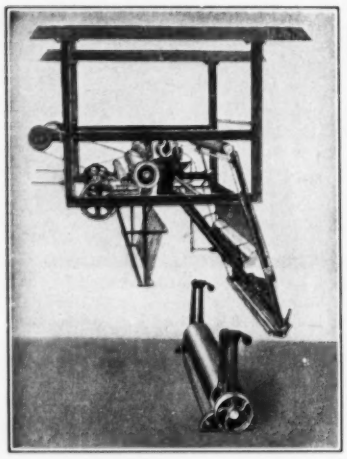


SINGLE BAR CURVED RUBBER EXPANDER with increased thickness of rubber giving longer life and better strength, and fitted with trouble-proof bushings. Three Bar and Single Bar Expanders available from stock.

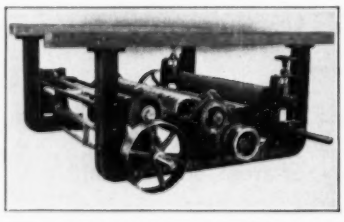


REGULATED-TENSION, OPEN-WIDTH CONTINUOUS MACHINE

A machine of stainless steel construction, designed so that additional units may be readily added. A standard machine which with proper modifications may be used for Boiling-Off, Scouring, Crabbing, Dyeing or Open Soaping. A roller bearing equipped machine with the pressure applied to rubber squeeze rolls by air cylinders. Drive by D.C. motors controlled by Dancer Rolls. Used on Pile Fabrics, Cottons, Rayons, Rayon Blends, Gabardines, Worsteds and Woolens.



IMPROVED SIMPLIFIED CEILING TYPE POWER PERCH with forward, Reverse and Variable Speed, Positive Motor Drive, with Fluorescent Through Lighting Panel, Yardage Counter, Folder and Winding Machine. Selvedges may be easily matched. For finish or rough perching.



NEW HEAVY DUTY BALL BEARING SCUTCHER with Rubber Draw Rolls; Shafts of increased size; Heavier Spirals; Gears—cut fibre and iron; Pulleys and Gears keyed; Brackets doweled. For all weights of cottons, rayons, and rayon blends, etc.

BIRCH BROTHERS, INC.

32 KENT STREET

SOMERVILLE, MASS

Phone: PRospect 6-3512

Southern Representative:
John C. Cosby, P. O. Box 212
Greenville, S. C.

BIRCH TREE.

HAROLD W. BIRCH CLIFFORD W. BIRCH
CLIFFORD W. BIRCH, JR.

What the TEXTILE MILLS *are doing*

Alco Hosiery Mill, Inc. will operate a knitting mill in the Burlington, N. C., vicinity. John H. and E. S. Vernon are principal incorporators of the mill which has been chartered with capital of $100,000.

By the end of the year **American & Efird Mills, Inc.** will transfer their branch cotton sewing thread mill at Lawrenceburg, Ky., to the new, 75,000 sq ft, one-story addition to the Mount Holly, N. C., mill.

Albany (N. Y.) Felt Co., makers of woven mechanical felts, etc., plans a four-story addition to be used primarily for offices.

The retired workers of **Avondale Mills** can supplement their incomes by utilizing the workshop and guidance provided by the company for making handicraft items and marketing them through the Cotton Craft Cooperative Associations. * * * Five scholarships in the School of Textile Technology at the Alabama Polytechnic Institute at Auburn will be sponsored by Avondale Mills in 1954. These scholarships will have a value of $750 per year for four years and will be financed through the Avondale Educational & Charitable Foundation. Contestants must be graduates from the high schools of the several Avondale Mills communities of the state or employees or children of employees of the mills.

A new company to manufacture knitted rugs in round and oval patterns has been organized by **W. H. Shuptrine,** Dalton, Ga., formerly manager of E. T. Barwick Mills there.

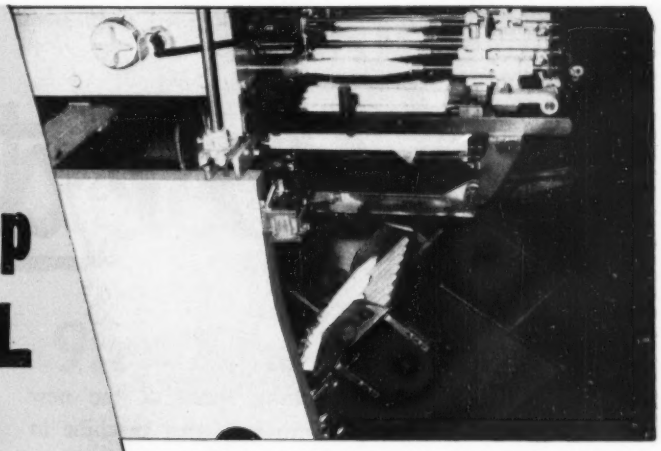
Berkeley (R. I.) Mill of Textron, Inc., closed last year, has been sold to Lonsdale Realty Corp., which will lease to other industries.

Thirty years ago **Burlington Mills Corp.** opened its first textile plant in Burlington, N. C., with Marvin B. Smith as president and J. Spencer Love of Gastonia as manager. * * * The Burlington Mills Foundation, a trust of the Burlington Mills Corp., has donated $200,000 toward purchase of the North Carolina State

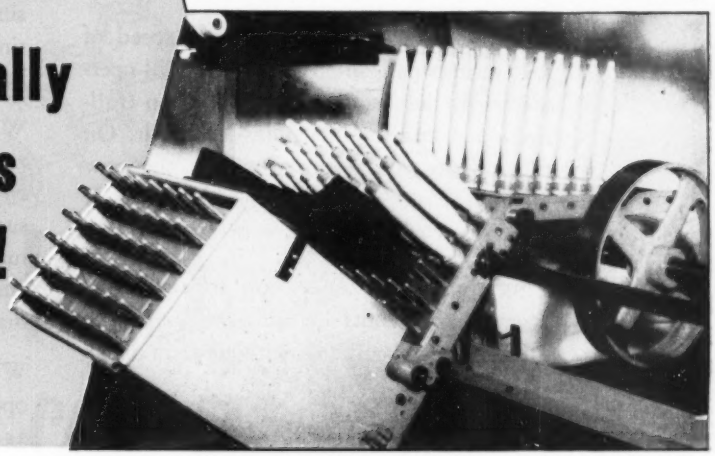
(Continued on page 169)

Foster-Muschamp AUTOFILL WINDER

Now Automatically Loads Bobbins on Pinboards!



Showing how bobbins are automatically deposited on pinboards

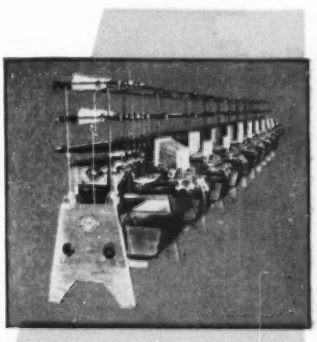


Showing pinboard box (which holds up to 6 empty pinboards), partially loaded pinboard and fully loaded pinboard

Pictured here is the most recent automatic action with which this machine has been endowed. After automatically winding filling bobbins with a precise lay of yarn (using no builder wheels), it now, by means of a PINBOARDING ATTACHMENT, automatically deposits the bobbins on pinboards — ready for storage, or transfer to the weave room!

Here are five ways you save cost and better your operations by using this improved machine:

1. No more cut or bruised filling yarns, due to one quill falling onto another.
2. Elimination of dirty filling caused by handling and rubbing on dirty surfaces.
3. Lower cost of moving bobbins from your Quilling Department to Weave Room.
4. Sorted colors on individual boards ready for colored yarn weaving — no hand sorting.
5. Efficient storage of full bobbins, protected against dirt and damage.



Learn about *all* the advantages of
The Foster-Muschamp Autofill Winder.
Write for Bulletin M-1.

FOSTER MACHINE COMPANY
WESTFIELD, MASS., U. S. A.
Southern Office: Johnston Bldg., Charlotte, N. C.

20 extra courses

Compare the knitting speed of the new "Reading 100" with any other machine in your mill.

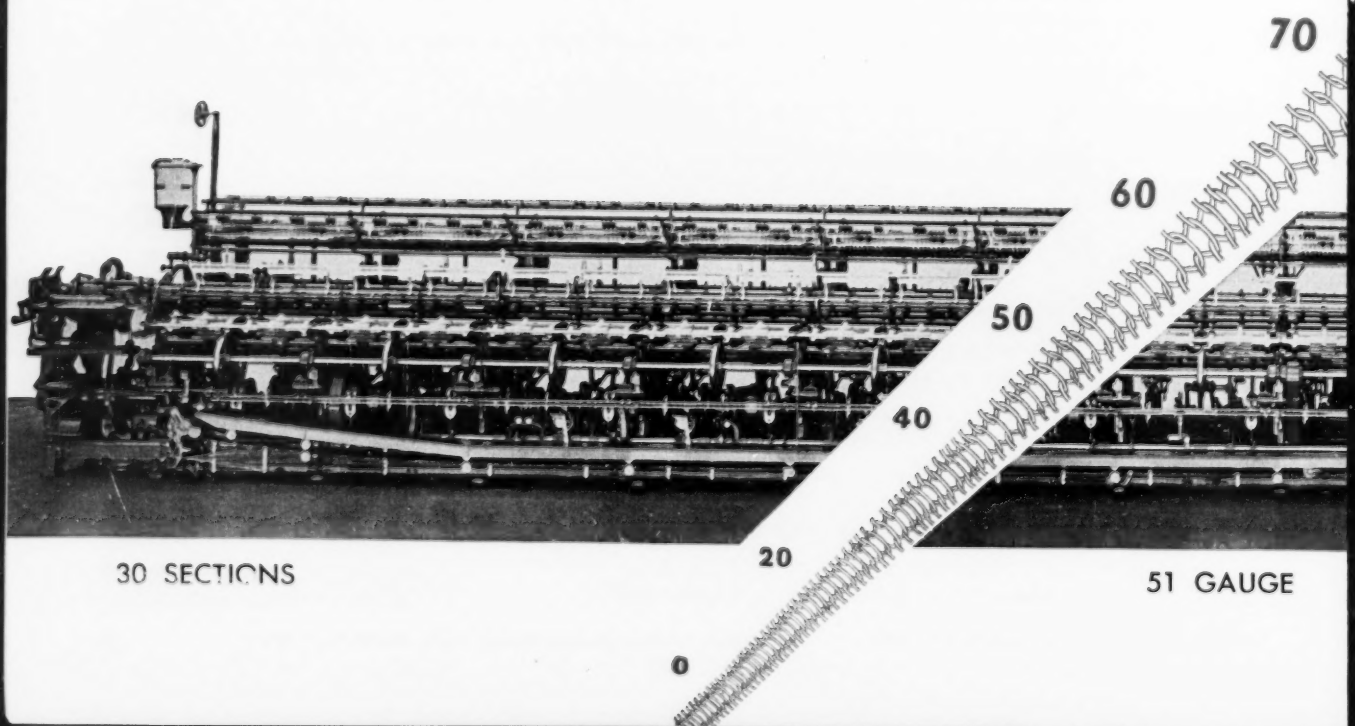
The "Reading 100"—built for a speed of 100 courses per minute in regular mill operation—is the fastest multiple-section full-fashioned knitting machine ever built. On 60 and 66-gauge constructions, the new "Reading 100" is operating 25 per cent faster than equipment now in use.

This high-speed operation means extra dozens, extra profits . . . using the floor space in your present building, without extra bricks and mortar.

In developing the new "Reading 100", Textile engineers evaluated every part in the existing Reading Machine . . . redesigned cam motions, increased balancing cam action to achieve smoother performance, strengthened structural parts to reduce vibration. Nearly all cam adjustments are made with a single solid hook gauge . . . greatly reducing time required to make or check settings . . . keeping all cam motions synchronized.

What about narrowing speed? Because of the rigid construction, made possible only by *end control*, the new "Reading 100" allows a consistent narrowing speed of 75 courses per minute. You will narrow with this new machine at the top operating speed of many machines in your mill.

We want you to see this new machine in operation. Study its performance. You will agree—there never has been another multiple-section full-fashioned knitting machine to match the production of the new "Reading 100".



every minute

100

95

90

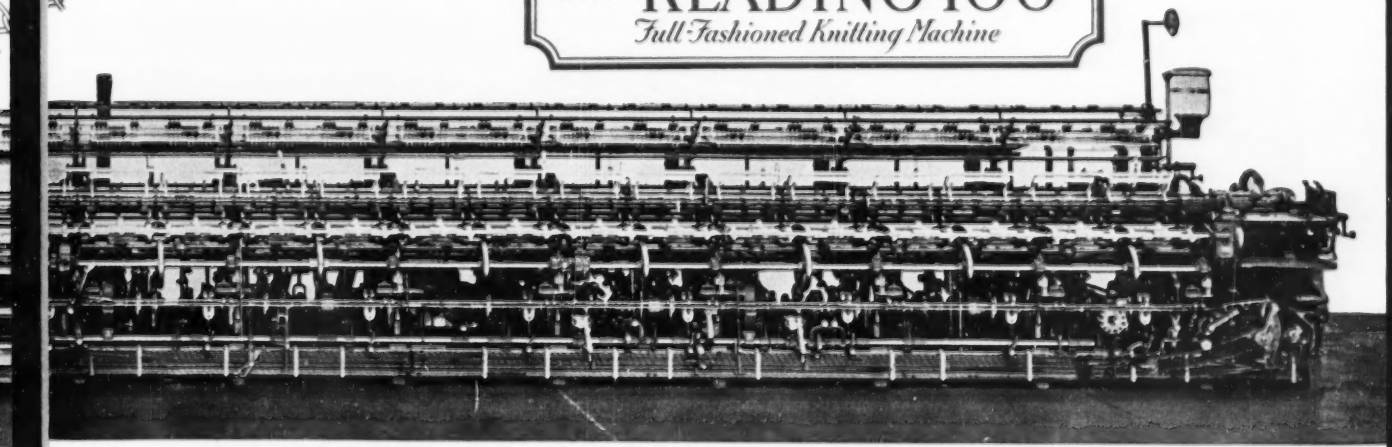
85

80

75

100 courses per minute

The "READING 100"
Full Fashioned Knitting Machine



60 GAUGE

66 GAUGE

TEXTILE MACHINE WORKS
READING, PENNA., U. S. A.

For better Warp Sizing ...Finishing...Printing

OK BRAND

TEXTILE STARCHES

• Always uniform! • Tailor-made for your requirements! • Always dependable!

FREE TECHNICAL SERVICE!

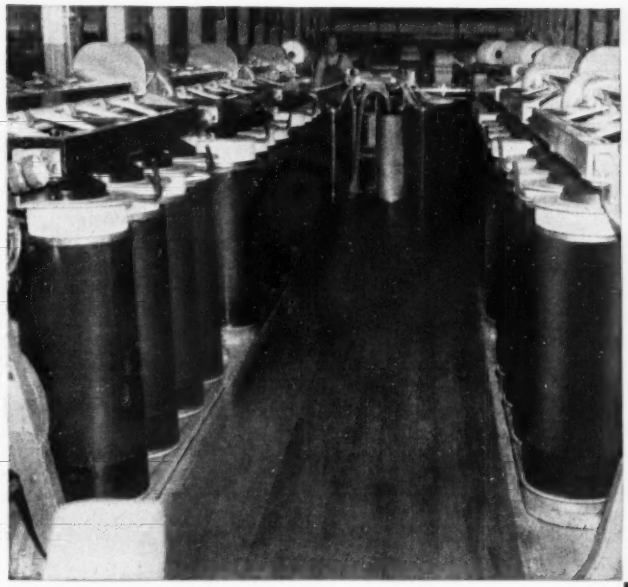
Many expert textile men are members of the permanent technical staff of Hubinger's famous laboratories. You are invited to consult these experts on any production problem involving the use of starch—without cost or obligation on your part.

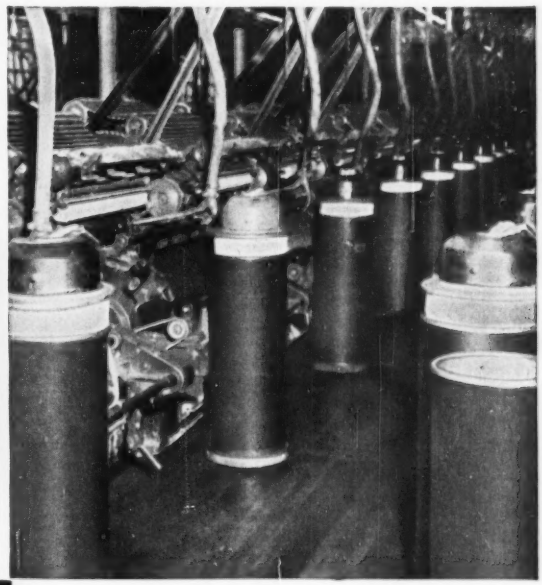
...the Stamp of Quality!

THE HUBINGER CO. (EST. 1881), KEOKUK, IOWA

Branch offices: Boston • New York • Charlotte • Chicago • Los Angeles

CUT OPERATING COSTS . . . *with* *Southern States* COILER CONVERSIONS



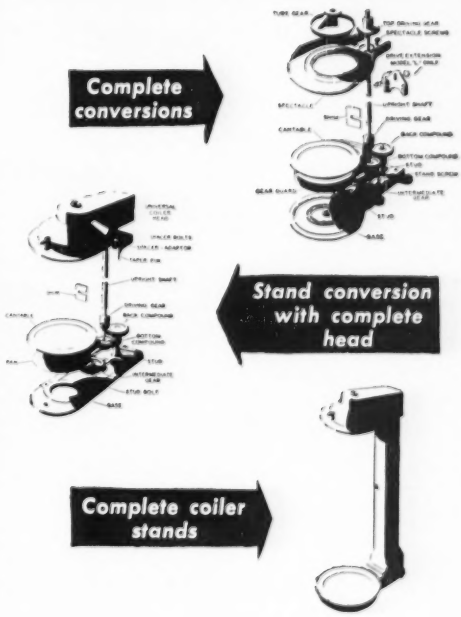


NOW AVAILABLE FOR ALL STANDARD CARDS AND DRAWING FRAMES

You can now choose the coil you desire, the can dimension you require, at a price to suit your budget from the most complete line of coiler units available to the industry. The savings effected in operating costs, according to actual mill cases in Southern States files, have enabled some mills to write off all conversion costs in less than a year's time. In addition, mills report an improvement in quality and job conditions.

Recognizing that converting to larger cans presents an individual problem to each mill, Southern States has designed a conversion unit for all standard coilers for cards and drawing frames, utilizing a number of the original non-wearing parts. Coilers may be rebuilt and converted at the same time with these units.

Make a move now to larger cans and simplified handling. Write for bulletin No. 201 today.



Southern States Equipment Corp.
HAMPTON GEORGIA

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

EQUALIZE THE SQUEEZE with AIR CYLINDERS

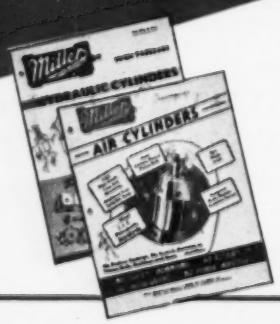
Two Miller Air Cylinders (one at each end of the pressure roll) provide the steady, even "squeeze" so essential for the pressure rolls of Textile machinery.

The variation in friction co-efficiency in these cylinders is practically negligible. Thus, whether the pressure is to be constantly held or reapplied as required, the "twin" cylinders can be depended upon to react simultaneously and in perfect unison to the slightest adjustment. Also, any desired pressure on the rolls can be duplicated and maintained at will.

These top performance qualities are "built-in" features of Miller Standard Air Cylinders proven 98% plus efficient (at 80 psi). The Miller Non-Adjustable Seals assure *consistency* of performance throughout cylinder life. This consistency is further quaranteed over exceedingly long periods of time by such standard Miller features as solid steel heads and caps, hard chrome plated piston rods, dirt wiper seals and non-corrosive cylinder barrels.

AIR CYLINDERS FOR

- Padders
- Washers
- Steamers
- Rope Squeezers
- Bleaching Equipment
- Dyeing Equipment
- Other Textile Machinery



WRITE FOR CYLINDER BULLETINS A-105 and H-104

Complete Miller cylinder line includes: air cylinders, 1½" to 20" bores, 200 PSI operation; low pressure hydraulic cylinders, 1½" to 6" bores for 500 PSI operation, 8" to 14" bores for 250 PSI; high pressure hydraulic cylinders, 1½" to 12" bores, 2000-3000 PSI operation. All mounting styles available.

SALES AND SERVICE FROM COAST TO COAST

CLEVELAND • YOUNGSTOWN • DAYTON • PITTSBURGH • PHILADELPHIA • BOSTON • HARTFORD • NEW YORK CITY • BUFFALO • ST. PAUL • GRAND RAPIDS • DETROIT • FLINT • FORT WAYNE • SOUTH BEND • INDIANAPOLIS • MILWAUKEE • LOUISVILLE • KANSAS CITY • SEATTLE • LOS ANGELES • SAN FRANCISCO • BALTIMORE • DENVER • ST. LOUIS • MOLINE • CHICAGO • HOUSTON • TORONTO, CANADA and OTHER AREAS

MILLER MOTOR COMPANY

Miller — 2042 N. Hawthorne Ave., Melrose Park, Ill.

AIR & HYDRAULIC CYLINDERS • BOOSTERS • ACCUMULATORS
COUNTERBALANCE CYLINDERS

IGEPONS

Versatile Textile Surfactants

You can do it better with an IGEPON

An IGEPON T brand will meet your surfactant needs in bleaching, dyebaths, kier boiling, scouring and soaping, and in any operation where chemical stability and the utmost in versatility are required. The new, liquid form IGEPON T-33, now available in bulk and drum lots, should be investigated for high efficiency and low cost.

An IGEPON A brand is recommended for maximum detergency under neutral and moderately acid or alkaline conditions.

Write today for our new brochure on the complete IGEPON line.

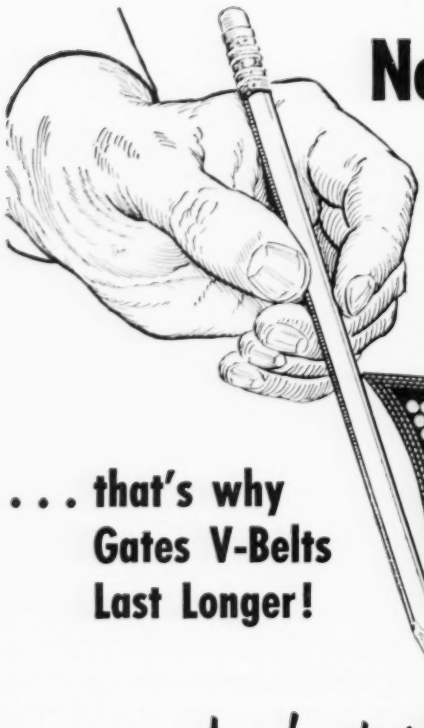
gdc ANTARA

ANTARA CHEMICALS

DIVISION OF GENERAL DYESTUFF CORPORATION

435 HUDSON STREET, NEW YORK 14, N. Y.

SALES OFFICES: New York • Boston • Providence • Philadelphia • Charlotte, N.C. • Chicago • Portland, Ore. • San Francisco



Notice the CONCAVE SIDES of the Gates V-Belt-

(U.S. PATENT NO. 1813698)

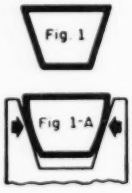
. . . that's why Gates V-Belts Last Longer!

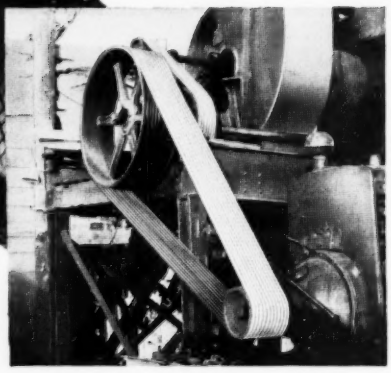
Look at this!

In *half a minute* you can prove for yourself the belt-saving advantage of the CONCAVE SIDES.

Take any *straight-sided* V-Belt (Fig. 1) and bend it as it bends in going around its pulley. At the same time, grip its sides with your fingers and *feel* those sides *bulge out* as in Fig. 1-A.

Clearly, those bulging sides will press *unevenly* against the V-pulley—and this causes extra wear at the points shown by the arrows (Fig 1-A).



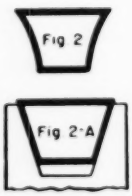


Typical Gates Vulco Rope Drive—the Gates V-Belts are built with Concave Sides to insure longer belt wear.

Now bend a Gates Vulco Rope with CONCAVE SIDES (Fig. 2)

As the belt bends, grip its sides—and you will feel the precisely engineered CONCAVE SIDES *fill out* to an *exact fit* in the sheave groove (Fig. 2-A).

These sides press *evenly* against the V-pulley. All wear is distributed *uniformly* across the full width of the Gates Vulco Rope—and this means *longer* belt life and *lower* belt costs for you!



When you buy V-Belts, be sure to get the V-Belt with the CONCAVE SIDES— The Gates Vulco Rope.

Gates Engineering Offices and Jobber Stocks are located in all industrial centers of the United States and in 71 foreign countries.

CS-537

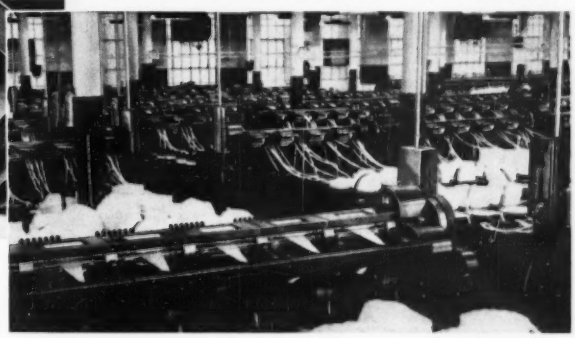
V-Belts — Hose
Molded Rubber Goods
for industry
World's Largest Maker of V-Belts

Gates® VULCO ROPE DRIVES

THE GATES RUBBER COMPANY • DENVER, U.S.A.

CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY

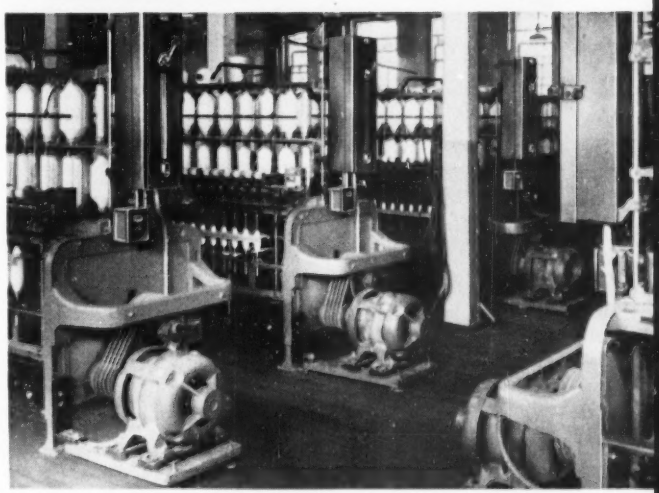


for **EXPOSITION** at Atlanta.
(At left) Cutler-Hammer Magnetic Starters and Safety Switches in the opener room and (below) Cutler-Hammer Combination Starters on drawing frames.

Specify it by name

Cutler-Hammer is the natural choice of experienced men who know dependability in motor control for textile manufacturing is too important to be left to chance. They know that Cutler-Hammer dependability is not a mere competitive claim but a fact that can stand out clearly in a mill's operating records to reflect favorably on their own ability and good judgment. They also know Cutler-Hammer dependability is not an occasional happenstance... that it is the earned advantage of the longest and most intensive specialization in motor control engineering... that it can safeguard every control need over the entire range of textile manufacturing requirements from the simplest starter to the most complex of electronic equipment.

You too will find it pays to insist on Cutler-Hammer Motor Control and refuse all substitutes. An adequate network of Authorized Cutler-Hammer Distributors throughout the textile manufacturing areas insures prompt attention and supply. CUTLER-HAMMER, Inc., 1456 St. Paul Avenue, Milwaukee 1, Wisconsin.

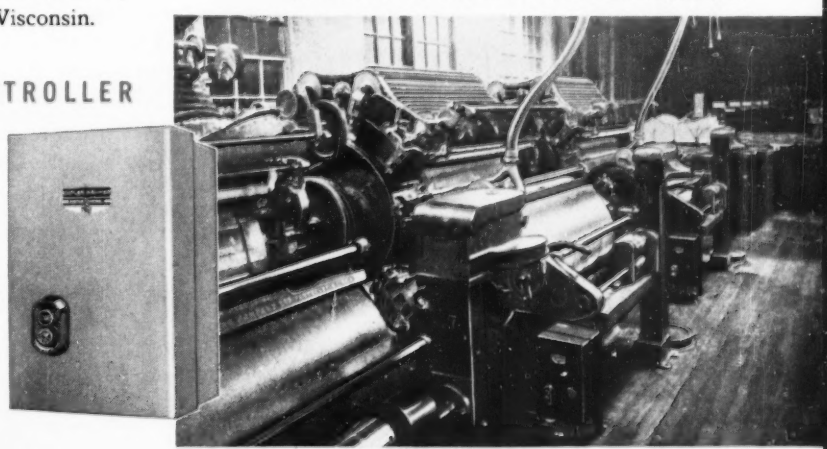


for **STATESVILLE**
Cutler-Hammer Combination Starters and Shipper Rod Switches on spinning frames. STATESVILLE DIVISION, The Seminole Mills, Statesville, N. C.

CUTLER-HAMMER CARD CONTROLLER

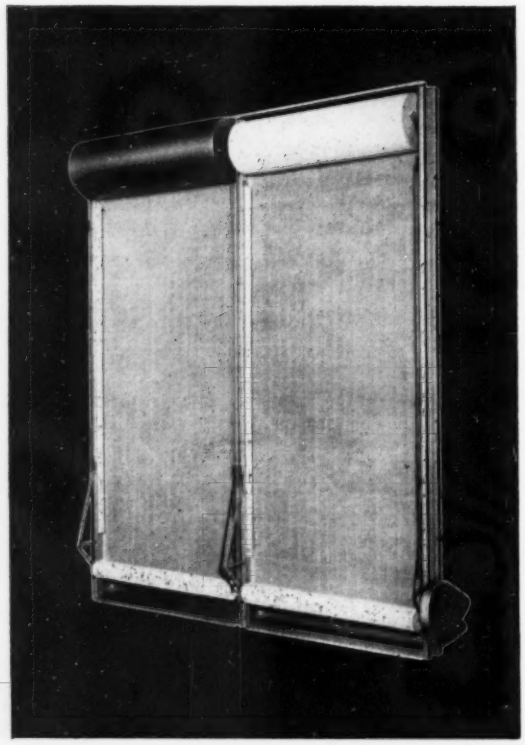
With integral drum type reverse switch

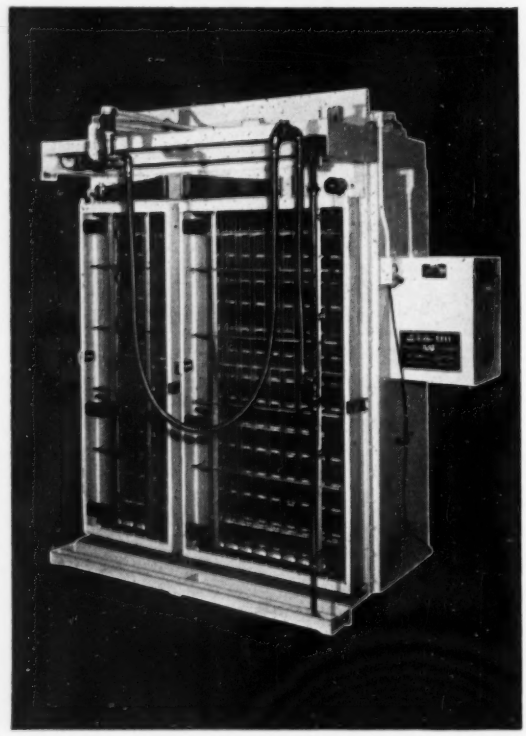
Here in one self-contained unit is all the control needed for a card...convenient pushbutton starting and stopping *plus* an integral reverse switch for cleaning and grinding. Card cannot be reversed accidentally or by any unauthorized person when controller case is padlocked. Easier to install. Easier and safer to use. Felt-gasketed against lint. Famous Cutler-Hammer Eutectic Element Overload Protection specially arranged to provide long starting time (required for cards) without loss of normal operating protection.



for **ANCHOR ROME MILLS, INC.**, at Rome, Ga.
Cutler-Hammer Card Controllers in a neat installation for individual card drives.

CUTLER-HAMMER
MOTOR CONTROL
C-H





2 Specialists

ready to make a clean up in any textile mill

Although we are the world's largest and only manufacturer of a complete line of air cleaning equipment—we have pioneered in the design and production of specialized equipment for the Textile field. Two of our top-quality air cleaners are shown here.

THE AAF AUTO-AIRMAT

A "lint hungry" automatic air filter that will work 24 hours *every* day banishing lint from the recirculated air in ventilating systems. The AUTO-AIRMAT is the *only* automatic self-cleaning lint filter on the market. It soon pays for itself by beating costly week-end maintenance on lint-clogged humidifiers, washers and precipitators. The AUTO-AIRMAT can be installed in Double V-Banks to conserve space—an important factor in certain mill operations.

THE *NEW* ELECTRO-CELL TYPE "H" WASHER

The Type "H" Washer incorporated as an integral part of an ELECTRO-CELL precipitator provides *push button* control of the cleaning operation. The washer travels on an overhead trackway which keeps it operating freely. The vertical header, carrying the spray nozzle, is rotated at each end of the travel. This provides the necessary 5 degree lead for the best possible penetration of the spray water, assuring thorough coverage of the entire depth of the collector plates with the resulting maximum cleaning action with a minimum of water. A big advantage over the standard "fixed" nozzle method of flooding.

WRITE THE AMERICAN AIR FILTER COMPANY

for technical data and descriptive information on either of these two units. And remember—AAF experience will help you solve all air cleaning problems. That's our business.

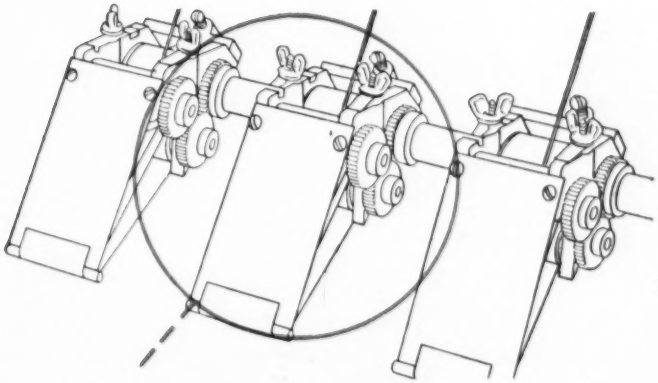
expect the best from AAF

American Air Filter

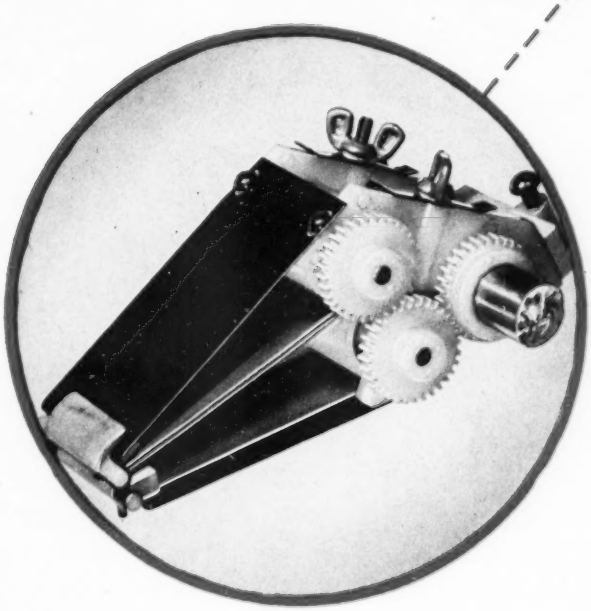
COMPANY, INC.

275 Central Avenue, Louisville 8, Kentucky

American Air Filter of Canada, Ltd., Montreal, P. Q.



Parts of Du Pont nylon stop yarn contamination



Parts molded for
Macdonald and Sons, Inc.,
by Plastic Mold and Engineering Co.,
both of Providence, R. I.

in spinning process . . . need no lubrication, last longer, improve yarn quality

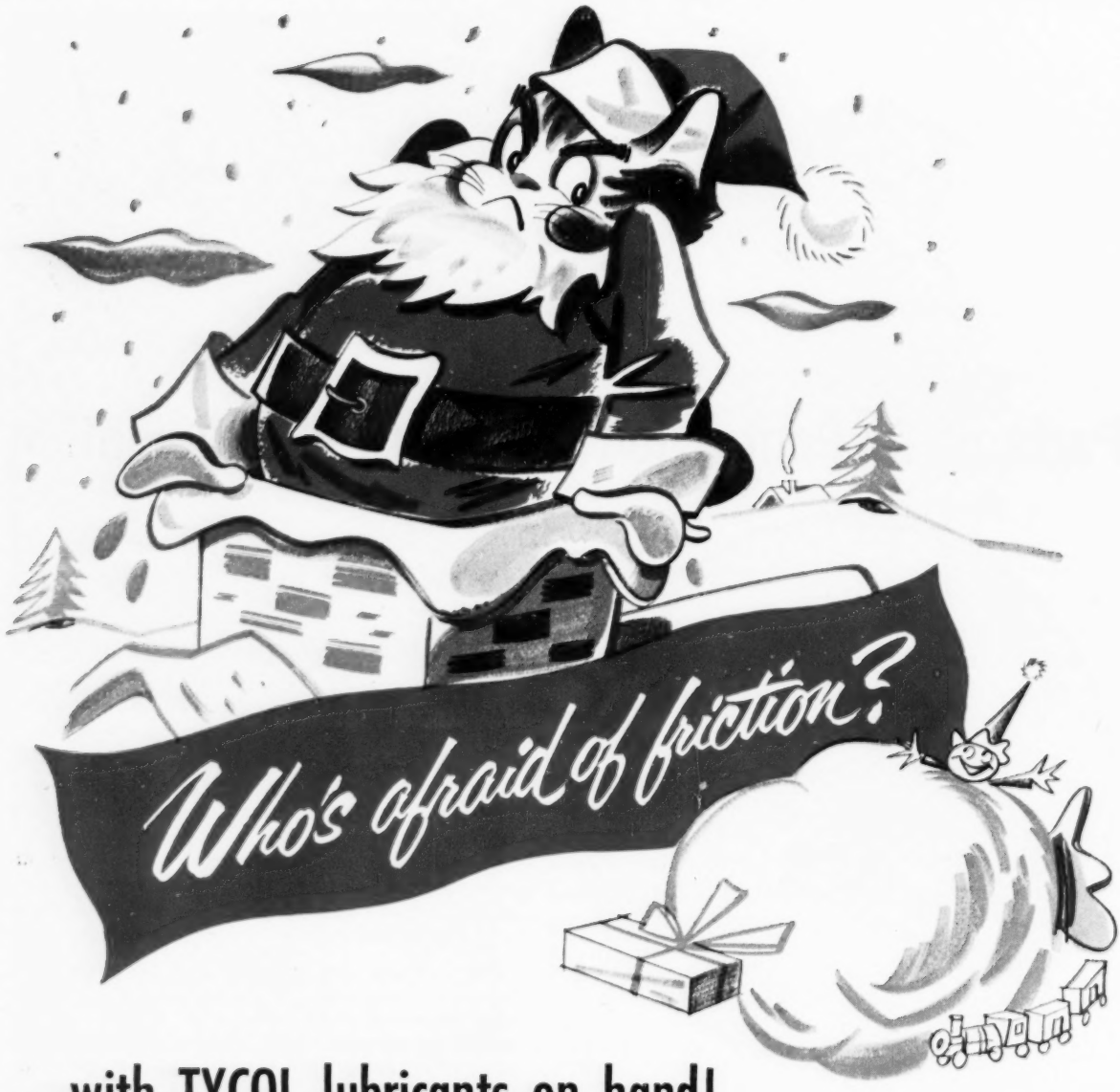
Long draft units, used during spinning to give rough yarn strength and uniformity, have always proved troublesome. The moving parts wore and abraded . . . required oiling. Resultant yarn contamination was a constant problem. Maintenance required complete machine stoppages to remove and replace one unit. Production suffered . . . costs increased.

In designing an improved unit, as illustrated, Macdonald and Sons, Inc., overcame these problems and developed, at the same time, a unit that improved yarn quality. They specified that all moving parts and bearing surfaces be molded of Du Pont nylon. The nylon parts need no lubrication, yet they resist abrasion and actually outwear their counterparts by several times. (Several nylon units were operated continuously for 16,000 hours—equivalent to 8 years of 40-hour weeks—without failure or appreciable wear). Du Pont nylon is tough . . . does not chip or crack . . . is unaffected by temperatures to 250°F. It absorbs shock . . . damps noise and vibration. And nylon's strength and resiliency allow the operator to remove and replace units while the machine is operating—without damage.

Du Pont nylon helps produce a better yarn, free of contamination. Costs are lowered . . . production increased.

Du Pont nylon is serving the textile industry in many ways—contributing to better performance often at lower cost. Perhaps it can help you solve a problem or improve a process. For full information, write: E. I. du Pont de Nemours & Co., (Inc.) Polychemicals Department, Room 1912, Du Pont Bldg., Wilmington 98, Delaware.

DU PONT
REG. U. S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY
Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS



...with TYCOL lubricants on hand!

The Lube that was "Tailored" for Textile Mills! Here's what we mean by lubricants "engineered to fit the job": awhile back, the Engineering Department of a well-known mill asked us to develop an oil that would meet their exacting loom lubrication requirements. After intensive study of the problem, we came up with Tycol Amortac 76. In actual loom usage, we *proved* Amortac to be easy to handle and virtually "splatter-proof," even when looms are being blown down. Result? An oil that features initial low cost . . . that by itself satisfies complete loom lubrication requirements (no chance of a lube mix-up!) . . . minimizes 'seconds' . . . will not build up with lint while feeding through the bearing opening. In every way, Amortac 76 is engineered to do a specific job. One reason why it pays to consult your local Tide Water Associated office . . . first!

TYCOL
INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C. • Pittsburgh
Philadelphia • Chicago • Detroit
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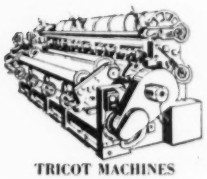
Toronto, Canada

Over 300 Tycol industrial lubricants are at your disposal . . . engineered to fit the job!

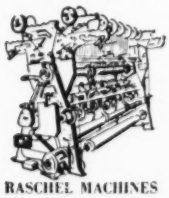
TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE - NEW YORK 4, N.Y.

REFINERS AND MARKETERS OF VEEDOL . . . THE WORLD'S MOST FAMOUS MOTOR OIL

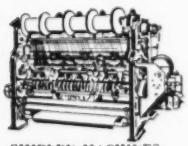
The Reiner Line:



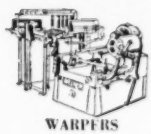
TRICOT MACHINES



RASCHEL MACHINES

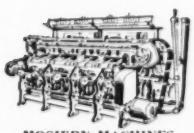


SIMPLEX MACHINES

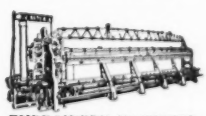


WARPERS

CREELS



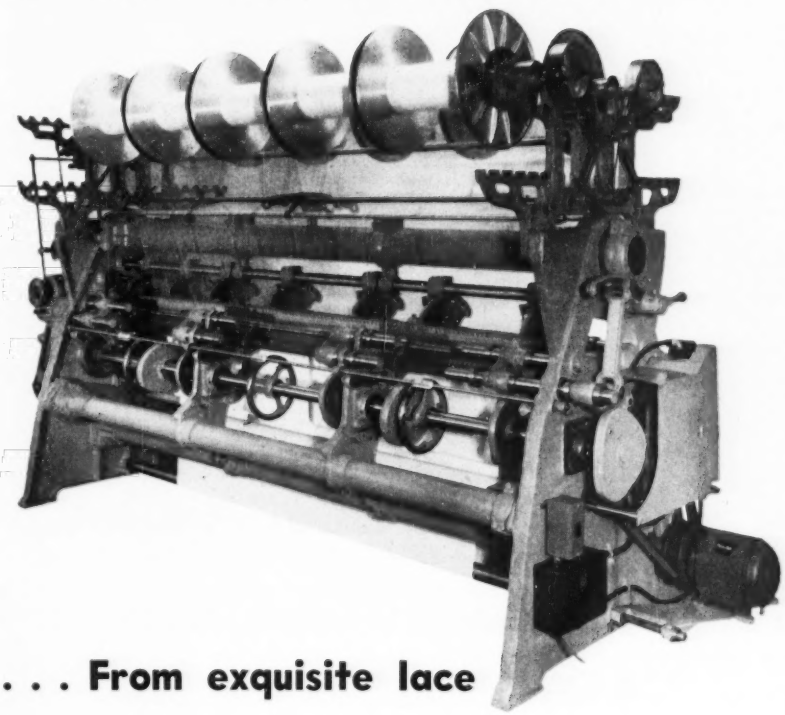
HOSIERY MACHINES



EMBROIDERY MACHINES

Ready spare part service available for all Reiner equipment.

NOW!
TWO REINER RASCHEL MODELS for A PROFITABLE and GROWING MARKET



. . . From exquisite lace

and tulle fabrics to shoe tops, elastic power nets, draperies—from finest denier nylon to coarse gauge metallic or plastic yarns. These and other goods can be made profitably on Reiner Raschel units.

For this market, we offer a unit with up to 8 guide bars and many attachments for special effects and constructions. Fast, versatile machines with one or two needle bars —Gauges 24—36—40, or as required. Rigidly built to withstand top speeds.

Another model offers up to 56 gauge and up to 5 guide bars. A fast, newly constructed unit with redesigned knitting elements and cams. Suited for elastic power nets, tulles or coarser goods. It operates at highest Raschel speeds, producing unexcelled fabrics at a steady clip and round the clock.

Both models take beams up to 21" diameter. Pattern wheel or chain link drives. Both are tops in Raschel knitting!

And remember, only Reiner offers a full line of warp-knit machines—Tricot, Simplex, Raschel—plus all required Creels and Warpers.

Ask for our richly illustrated catalogs.

1903 50th Anniversary 1953

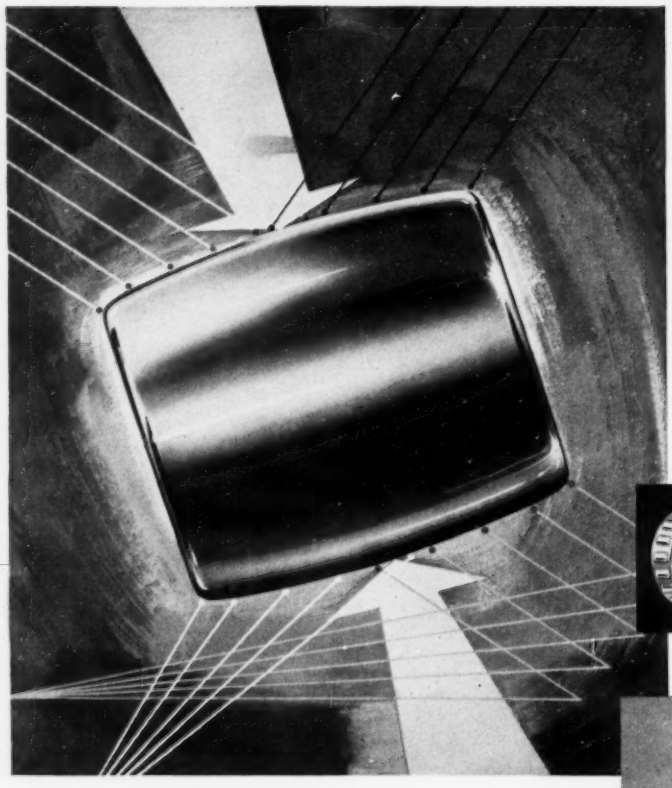
ROBERT REINER INCORPORATED

10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903

550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY

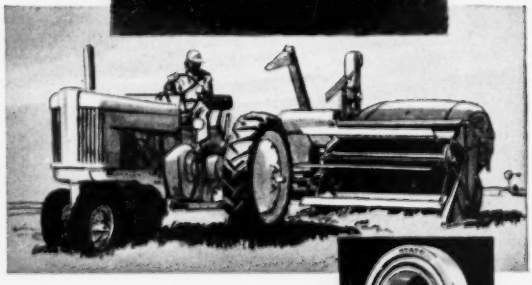


A new era in bearings is taking this shape...

NEW HYATT BARREL BEARING

now available in volume!

Industrial designers and engineers seldom make changes in bearing specifications. But when they discover something *really new*—like Hyatt's BARREL BEARING—out come the blueprints! *And this time they know they've got something!* Hyatt's new Barrel Bearing combines dual-purpose design with self-aligning action. It takes load from any direction and operates at full efficiency under conditions of misalignment! And, because barrel-shaped rollers provide high load capacity with low friction, this unique bearing is ideal for a wide range of applications. Best of all, the *cost* is far lower than you would expect! Find out how to improve *your* product . . . Consult a Hyatt Sales-Engineer, or write for our new Barrel Bearing catalog.



HYATT ROLLER BEARINGS

STRAIGHT · BARREL · TAPER

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION, HARRISON, N. J.

For
Texturized Effects
Improved
Hand Characteristics
New

RESLOOM E-50

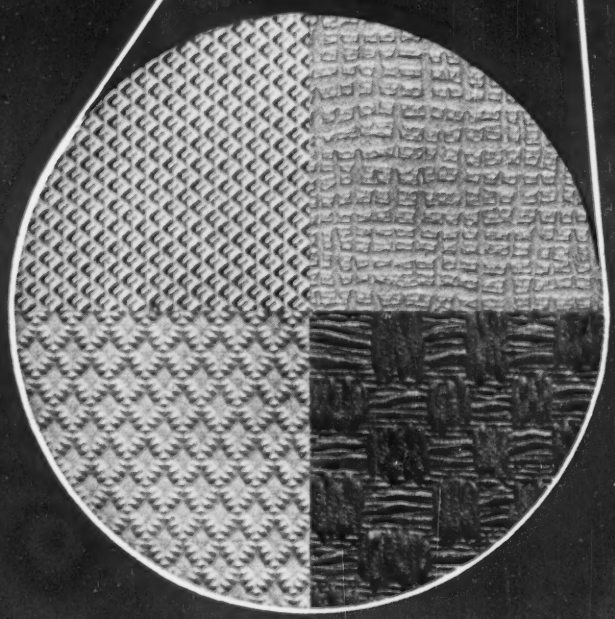
New Resloom E-50, a modified urea thermosetting resin, has many important advantages for textile finishers interested in improving durability, crush-resistance and stabilization on cottons and rayons.

The ideal resin for white and white-background applications (because of its non-yellowing characteristics), Resloom E-50 provides soft hand, good shrinkage control, ironability and crease resistance. Furthermore, it is very effective for Schreiner, deep-embossed, glazed and other texturized effects—used alone or in combination with other Monsanto thermosetting and thermoplastic resins.

Along with its non-yellowing characteristics, Resloom E-50 offers these other production advantages: no build-up on texturizing equipment, excellent durability to alkaline wash, compatibility with hand modifiers, excellent storage life and bath stability. Ask for mill-proved application and technical data.

MONSANTO CHEMICAL COMPANY,
Textile Chemicals Department,
Boston 49, Mass.

Resloom: Reg. U. S. Pat. Off.



MONSANTO ®

SERVING INDUSTRY...WHICH SERVES MANKIND

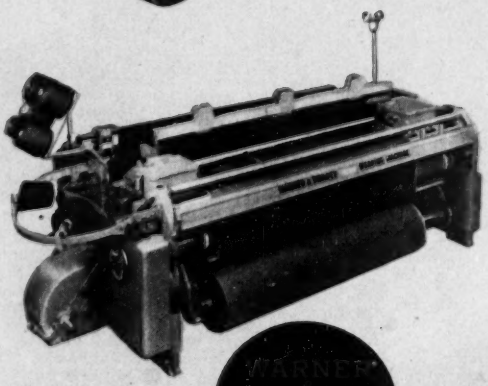
"Mainspring" that keeps weaving profits mounting!

PICKING LEVER AND TORSION ROD
of the NEW
WARNER & SWASEY-SULZER
WEAVING MACHINE

Here is the "mainspring" behind the faster rhythm heard in many modern weaving rooms today—in the production-minded mills using new Warner & Swasey-Sulzer Weaving Machines. It's the revolutionary new picking lever and torsion rod that propels up to 240 shuttles per minute across the machine—speeding the production of fine fabrics, cutting costs, building profits.

It will pay you to investigate the many operational advantages and cost-cutting features of these new machines. Call in your nearest Warner & Swasey Field Representative for all the facts.

Small steel shuttles are driven at high speed through the shed by this short picking lever. Energy is built up in the lever by twisting the torsion rod through cam action in the picking box, and locking it in its loaded position. Four times a second, a shuttle is placed in firing position and the driving force released—shooting the shuttle across the machine. Driving force is easily adjusted for varying widths of cloth and weight of filling. These parts, like all vital moving parts of this precision machine, are made of high strength alloy steels, making higher operating speeds possible.



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YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

A complete adjustable speed line

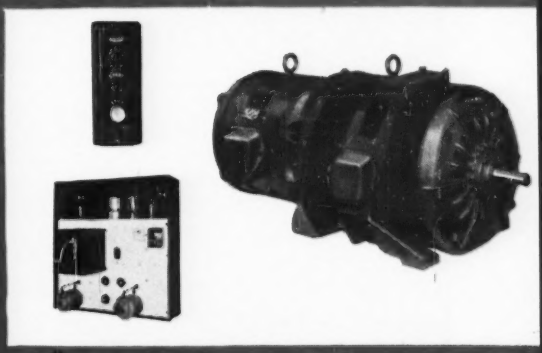
Get the right answer from Louis Allis

It pays to think first of the Louis Allis Co. whenever you're considering adjustable speed drives for your product or plant. Louis Allis builds all basic types. There's no compromising — from this complete line you can select the unit that's exactly suited to your job conditions and engineered for your application.

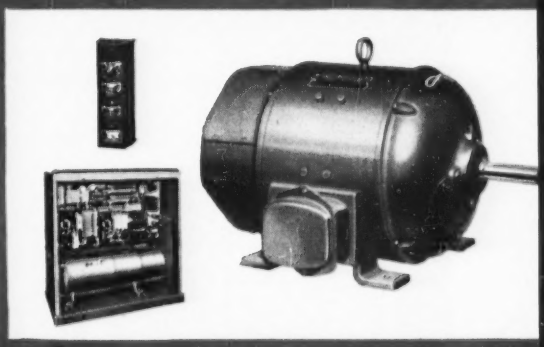
For the simplest — and best — solution to any adjustable speed drive problem, call your nearby Louis Allis Sales Engineer, or write to us.

THE LOUIS ALLIS CO.
MILWAUKEE 7, WISCONSIN

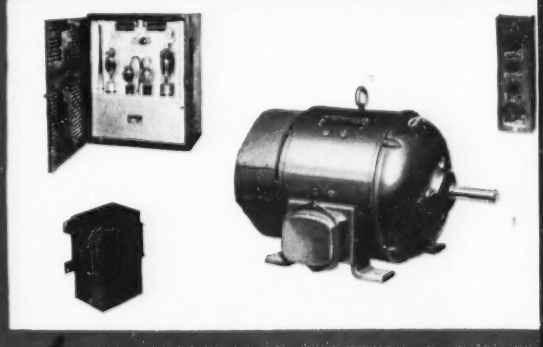
ASD-101



AJUSTO-SPEED. ½ to 75 horsepower. A versatile eddy current clutch combined with a constant speed AC squirrel cage motor provides wide, continuous duty speed ranges. Tachometer feedback circuit offers precise speed regulation in an unusually compact drive. Many optional features available — dynamic braking, torque control, threading speeds, inching, jogging, multi-motor operation and range drives.



SELECT-A-SPEED. 5 to 200 horsepower. New magnetic amplifier and adjustable voltage control provide superior speed regulation — better than required on most machines — from ½ base speed or less to full base speed. All-electric circuits — easily serviced. A.C. source, converted to D.C. by motor-generator set, drives adjustable speed D.C. motor. Many special control features available — reversing, dynamic braking, jogging, special programming or sequencing control, extra wide speed range. All drive motor enclosure available.



NEW! ELECTRONIC SELECT-A-SPEED. ¼ to 15 horsepower, D.C. adjustable speed drive motor operates from A.C. electronic power unit. Infinitely adjustable speed ranges 5:1, 20:1, 50:1, 100:1 available. Unusually close speed regulation to ½% with optional tachometer feedback circuit. Included as standard are: dynamic braking, torque limit, line voltage compensation. A few available modifications include: reversing, jogging, threading, and quick slow-down. All motor enclosures and control stations — from open to explosion-proof.

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

REPELOTEX

takes you out from under with durable water repellency

New, extremely efficient **REPELOTEX ST** is providing an end to the problem of durability in water repellency for more and more manufacturers.

The life-of-the-fabric ideal in durability is practically realized with this new silicone-based formulation for almost every fabric. No matter what type of fiber, construction or finish, **REPELOTEX ST** is easily formulated and applied, *at a cost lower than or equal to ordinary non-siliconic treatments.*

Its economy, however, merely serves to emphasize the great advantages **REPELOTEX ST** offers in addition to its practically permanent durability: defies even dry cleaning and laundry soaps; improves strength and hand of resin-treated fabrics; improves sewability, and resists mark-off effects, staining and spotting.

Readily compatible with resin-treated finishes, **REPELOTEX ST** also appeals to processors with its ease of formulation and use, and has no unpleasant odor, requires no after-washing.

It is to your distinct advantage to *ask for a mill demonstration today — there is no obligation.*

ONYX **OIL & CHEMICAL COMPANY**

TEXTILE DIVISION

WARREN & MORRIS STS., JERSEY CITY 2, N. J.

CHICAGO · BOSTON · CHARLOTTE · ATLANTA

For Export: ONYX International, Jersey City 2, N. J.

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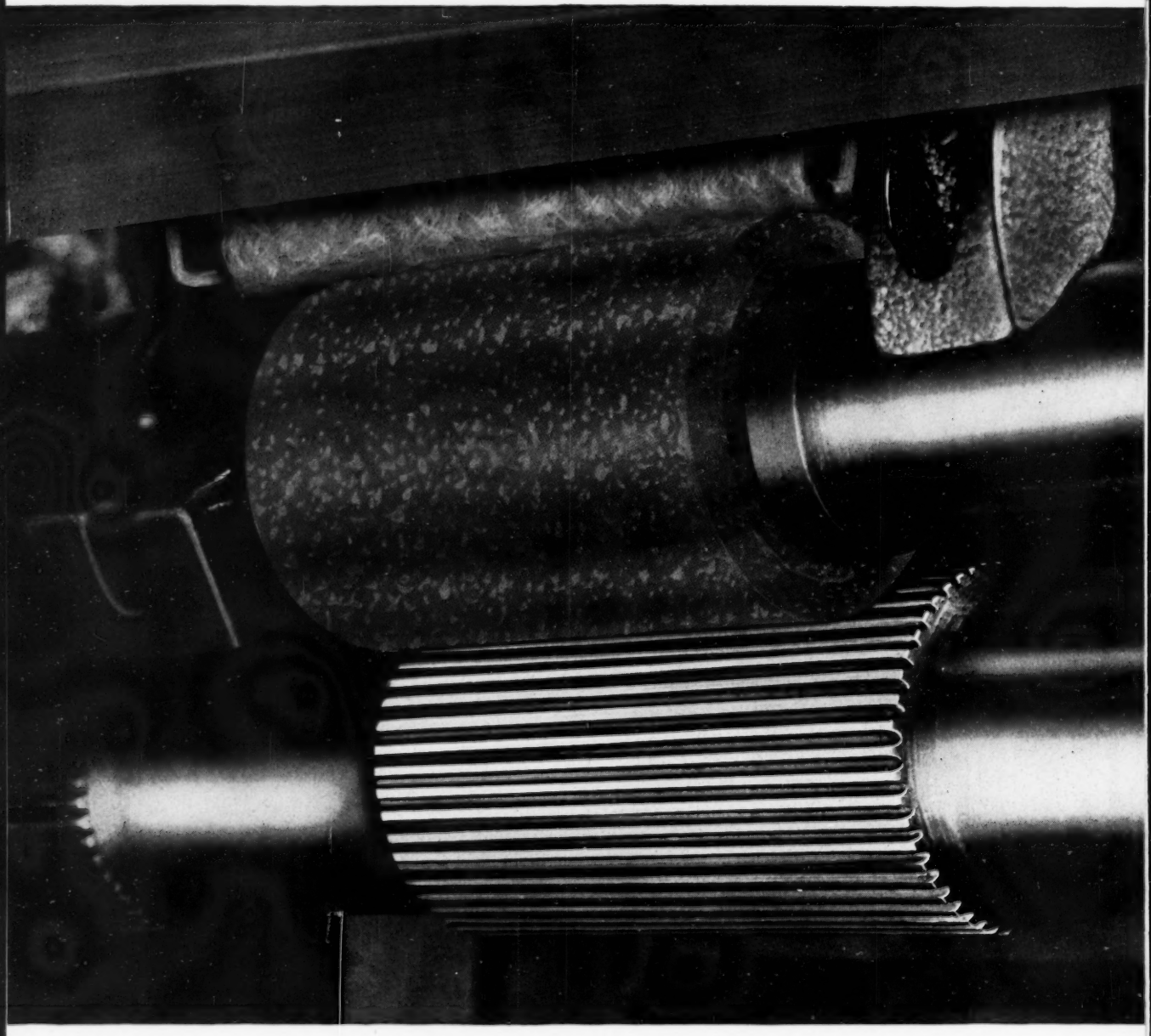


IBROCOL COTS ELIMINATE EYEBROWING PROBLEM

IBROCOL, newest discovery of Dayton's Textile Research Laboratory, gives Dayco Cots an almost human-like ability to select and pick up only the short staple fibres and tuck them well back on the clearer board. Long staple fibres are allowed to remain in the yarn, thus removing the major cause of eyebrowing.

Because of the chemical and mechanical action resulting from the addition of IBROCOL, just the right coefficient of friction is set up to completely control the eyebrowing problem. Dayco Cots on your equipment will also improve the quality of your yarn and give you valuable savings in time, material and reduction of waste. IBROCOL is another Dayton exclusive; no other cot on the market has this amazing ingredient. Contact your Dayco representative for complete details or mail the coupon on the opposite page today!

ACTUAL TEST

Discover These Cost Cutting Advantages

Test one frame of new Dayco Cots and you'll never go back to ordinary cots. Only Daycos have the new Ibrocol ingredient added that gives the surface just the right coefficient of friction to eliminate excessive eyebrowing.

The addition of Ibrocol retards slicking and glazing in the new Dayco Cot, thus fewer buffings are required. Also the clearer board needs cleaning less often because Dayco Cots pick up *only* the short staple fibres and transfer them well back under the clearer board, away from the eyebrowing position.

Note the difference in waste on the two clearer boards at the right. The top board, used with new Dayco Ibrocol Cots, shows much less waste and a minimum of eyebrowing. Here's actual proof of the ability of Dayco Cots to cut cost, save time and labor, wherever they are used.

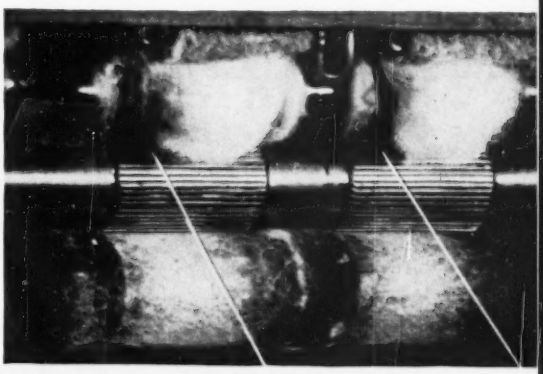
Draft Higher Quality Yarn

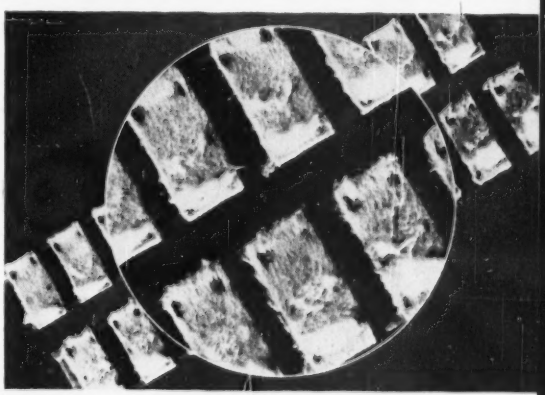
Dayco Cots leave the long staple fibres in the yarn, create fewer lap-ups and ends down, reduce waste and completely control eyebrowing. Result: a superior quality yarn from every Dayco-equipped frame.

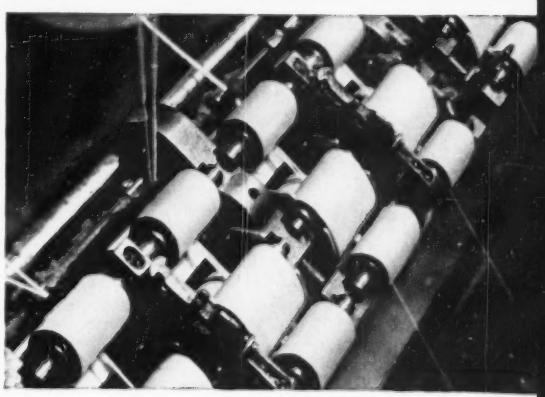
Dayco Cots guarantee better drafting on all types of frames using natural or synthetic fibres. So, for the finest quality yarn at lowest possible cost equip *your* frames with Dayco Cots. A test run will be all that's needed to convince you.

Make Your Own Money-Saving Test

Prove to yourself that Dayco IBROCOL Cots will save you time and labor, increase production and improve yarn quality. Test Dayco Cots right on the same frame with those you're using and make your own comparison. Clip and mail the coupon below to arrange a money-saving test.







Dayton Rubber

Since 1905

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

Dayton Rubber Co., Textile Division, Woodside Bldg., Greenville, S. C.

(C) D.R. 1953

DAYTON RUBBER CO.
Dept. 36, Textile Division
Woodside Bldg., Greenville, S. C.

I'd like to know more about Dayco Ibrocol Cots—

- ☐ Send additional literature
- ☐ Arrange test run of Dayco Cots on my equipment

Name_____

Position_____

Firm_____

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Life Stream of Industry

BRINE

Now Yours Automatically Where You Want It —When You Want It

CANNING

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WATER SOFTENING

MEAT CURING

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YOUR INDUSTRY, like so many others, very probably uses brine in its operation.

And now the LIXATE Process, pioneered and developed by the International Salt Company, takes all the complications, all the inaccuracies, all the costly handling out of brine making. You use rock salt—and gravity does all the work.

You just turn a valve and *instantly* you have brine where you need it, when you need it—automatically!

And because this pure brine is *always* 100% saturated, because it *always* contains exactly 2.65 pounds of salt per gallon, your brine measurements are *unfailingly* 100% accurate.

Hundreds of companies have saved thousands of dollars, have improved the quality of their products by installing the LIXATE Process. Let International's Industrial Division help *you*. Send the coupon below, today.

INTERNATIONAL SALT COMPANY, INC.
INDUSTRIAL DIVISION, Scranton 2, Pa.

I am interested in knowing what the *Lixate* Process can do for MY plant. Please have an International Industrial Engineer contact me as soon as possible. I understand there is no cost, no obligation.

FIRM NAME _____

ADDRESS _____

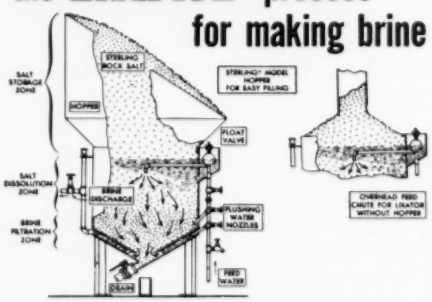
CITY _____ ZONE _____

STATE _____

MY NAME _____

MY TITLE _____

the LIXATE* process for making brine



HOW LIXATOR WORKS

In the dissolution zone—flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone**—through use of the *self-filtration* principle *originated by International Salt Company*, the saturated brine is thoroughly filtered through a bed of *un*dissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

INTERNATIONAL SALT CO., INC.
SCRANTON, PENNSYLVANIA

SALES OFFICES: Atlanta, Ga. • Chicago, Ill. New Orleans, La. • Boston, Mass. • St. Louis, Mo. Newark, N. J. • Buffalo, N. Y. • New York, N. Y. Cincinnati, O. • Philadelphia, Pa. • Pittsburgh, Pa. Richmond, Va. • ENGINEERING OFFICES: Atlanta, Ga. Chicago, Ill. • Buffalo, N. Y. *Reg. U. S. Pat. Off.

A time-proven formula of interest to Executives

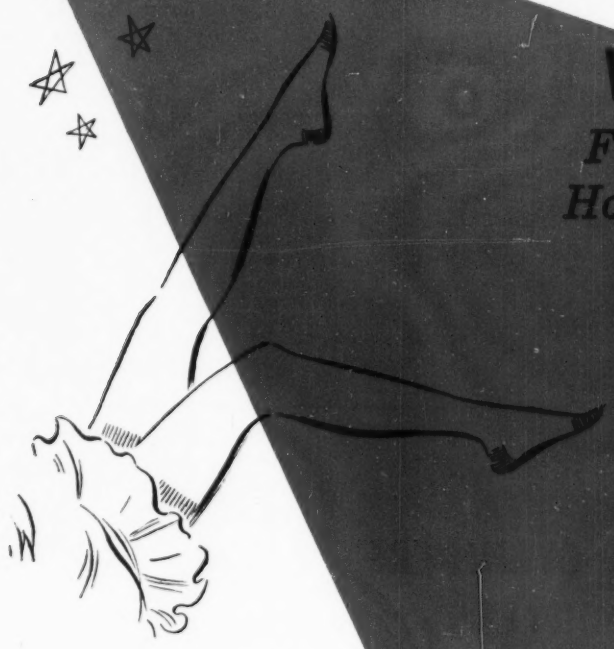
top gauges *equal* top sales

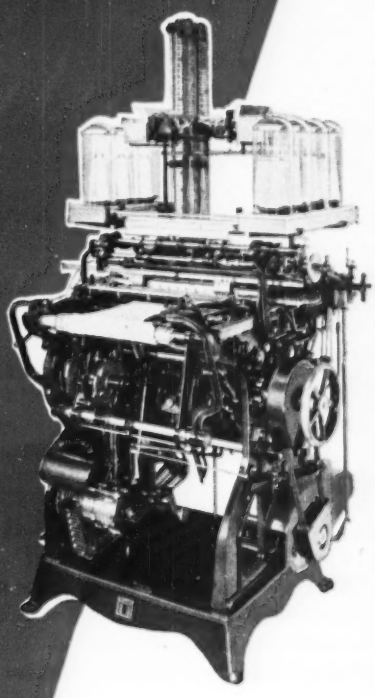
when it's a

WILDMAN

Full Fashioned Hosiery Machine

75 gauge





Here is your opportunity to increase sales in the highest hosiery gauge market. Use the WILDMAN 75 gauge machine and you'll gain this double-barrelled advantage.

ONE: In the highest gauges you'll be giving the consumer what she wants — maximum elasticity, beauty, longer-wearing stockings of 12 or 15 denier, that will please her taste in fine hosiery.

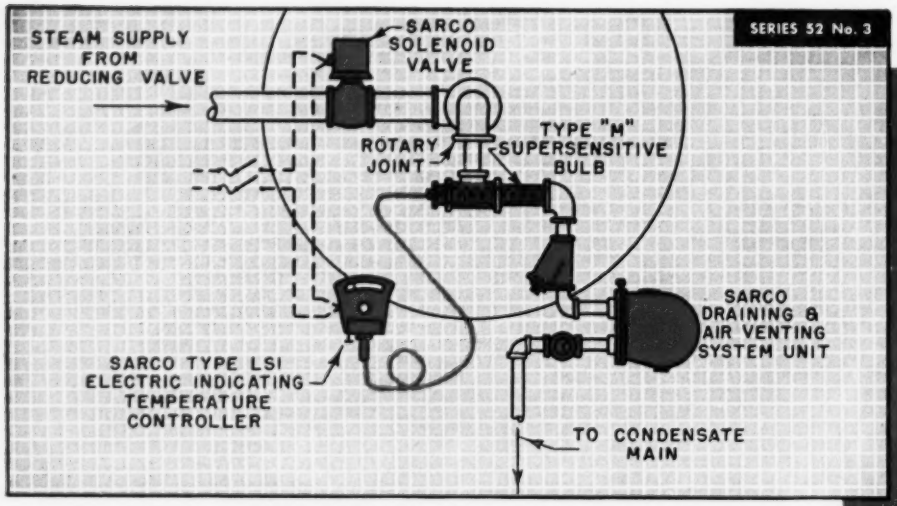
TWO: Since she is getting the sheer, sheer hosiery with that desirable dull finish — the luxurious look — there is no longer the market need or want for special types of hosiery that have complicated your production, inventory and sales problems.

Get on the bandwagon for increased sales now, in the highest gauges. Start producing with the WILDMAN 75 gauge Full Fashioned Hosiery Machine. You'll find it a high production, efficient, economical, automatic-in-operation machine. Inquire today for full information.

WILDMAN MFG. CO., NORRISTOWN, PA.

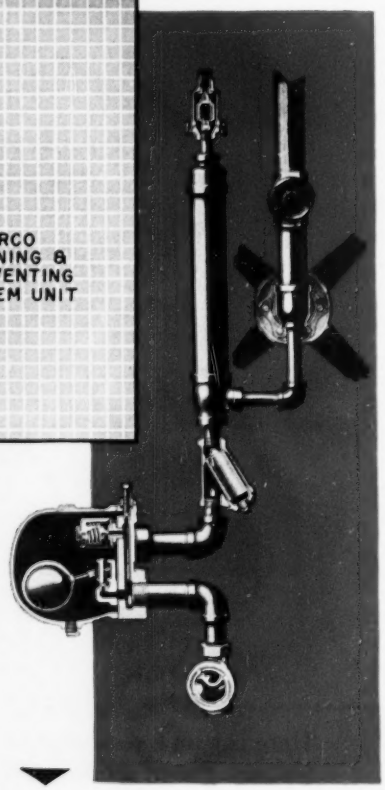
MANUFACTURERS OF: FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS

This sketch shows temperature control applied to a Sarco Draining System for drying cylinders. The Sarco System assures rapid and continuous removal of condensate. The steam supply is controlled in accordance with load requirements.


SERIES 52 No. 3
STEAM SUPPLY FROM REDUCING VALVE
SARCO SOLENOID VALVE
ROTARY JOINT
TYPE "M" SUPERSENSITIVE BULB
SARCO DRAINING & AIR VENTING SYSTEM UNIT
SARCO TYPE LSI ELECTRIC INDICATING TEMPERATURE CONTROLLER
TO CONDENSATE MAIN

more production

from DRYING CYLINDERS and ROTARY DRYERS



The standard Sarco Draining and Air Venting System consists of a special float-thermostatic steam trap equipped with *steam lock release* and thermostatic air vent; an air collector pipe with an air vent on top; a strainer and a flow indicator.

IF YOUR DRYING OPERATIONS include steam heated drying cylinders or rotary dryers, this story is of vital interest to you!

More than one hundred actual installations made in the last two years in the textile, chemical and paper industries have demonstrated that:

1. *Warming-up time can be cut 10-25%*
2. *Production can be increased 15% or more*
3. *Considerable steam can be saved at the same time by installing the*

Sarco Draining and Air Venting System

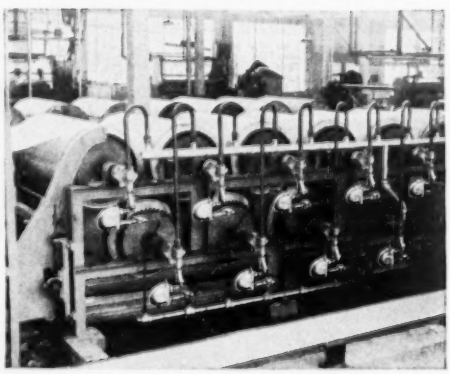
This System has finally solved the vexing problem of traps locked by steam in the syphon pipes and discharge joints from the cylinder to the steam trap.

Continuous discharge of condensate as fast as formed, plus very rapid purging of air assure more evenly heated drying surfaces—with less steam consumption.

Write for the Technical Bulletins for your industry.

SARCO COMPANY, INC.
Empire State Bldg., New York 1, N. Y.
REPRESENTED IN PRINCIPAL CITIES
Sarco Canada Ltd., Toronto 8, Ont.

SARCO saves steam
improves product quality and output



Special Sarco Float-Thermostatic Steam Traps equipped with *steam lock release* and sight glass as used on drying cylinders and rotary dryers in the textile, chemical and paper industries.

401

Golden Aspen, Colorado

Quality-
Integrity

AHCOVATS*

Get the fastest results in bright, rich yellows, greenish yellows and browns . . . with

AHCOVAT FLAVONE GC

AHCOVAT GOLDEN YELLOW GK

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* Reg. Trademark

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Associated with Imperial Chemical Industries Ltd.
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ARNOLD, HOFFMAN & CO., INCORPORATED • EST. 1815 • PROVIDENCE, R. I.
Offices: Charlotte • New York • Teterboro • Providence
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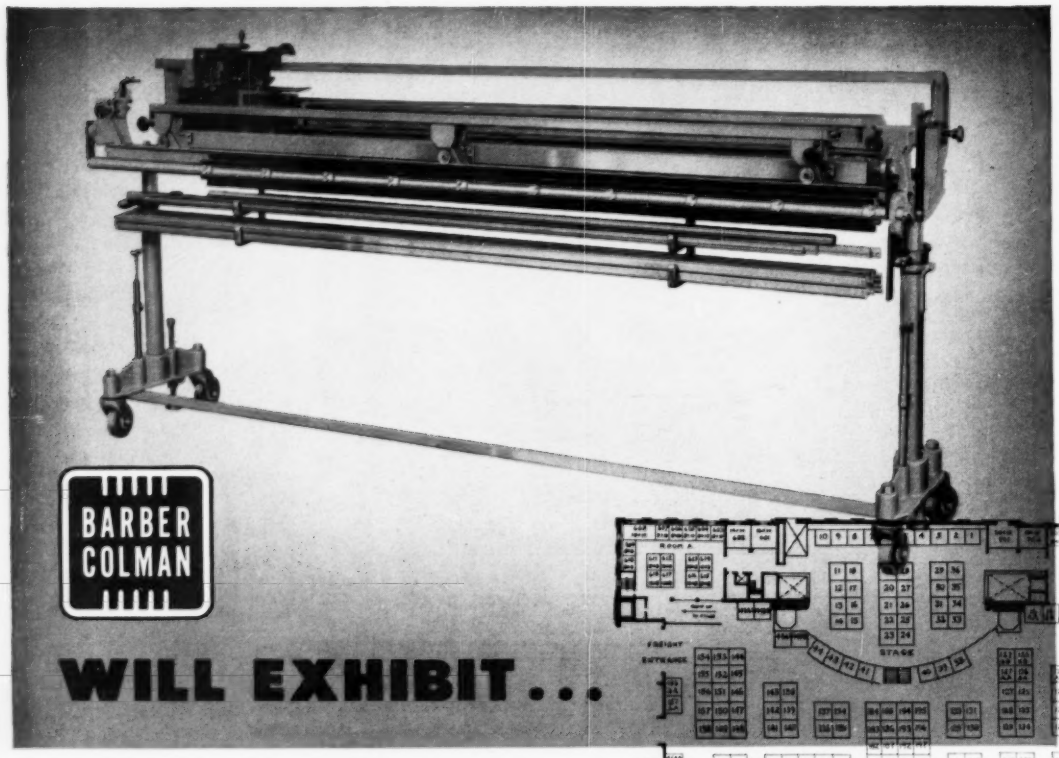


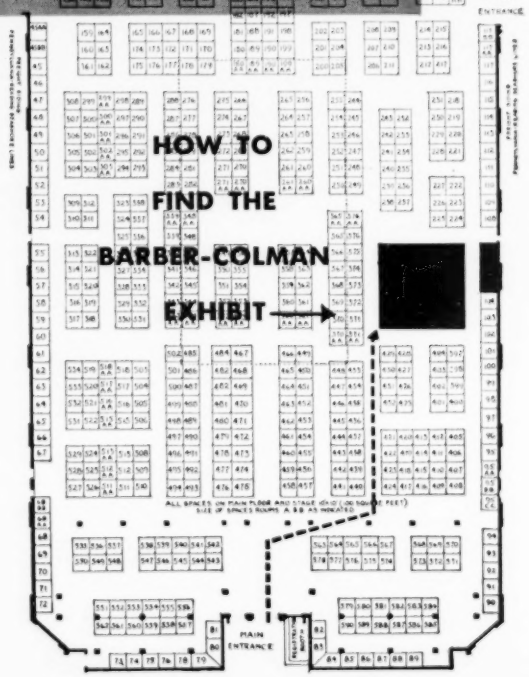
THIS NEW PORTABLE WARP TYING MACHINE

Made in 3 lengths: 46", 56", and 66" (or longer to order). Ties-in full width warps in a single operation. Knotter Unit is removable. Three models available to tie from flat sheet or end-and-end lease in cotton, wool, spun yarns, and all kinds of synthetics. See this NEW machine *in action* . . .

AT THE 1954 AMERICAN TEXTILE MACHINERY EXHIBITION

ATLANTIC CITY

APRIL 26-30, 1954



AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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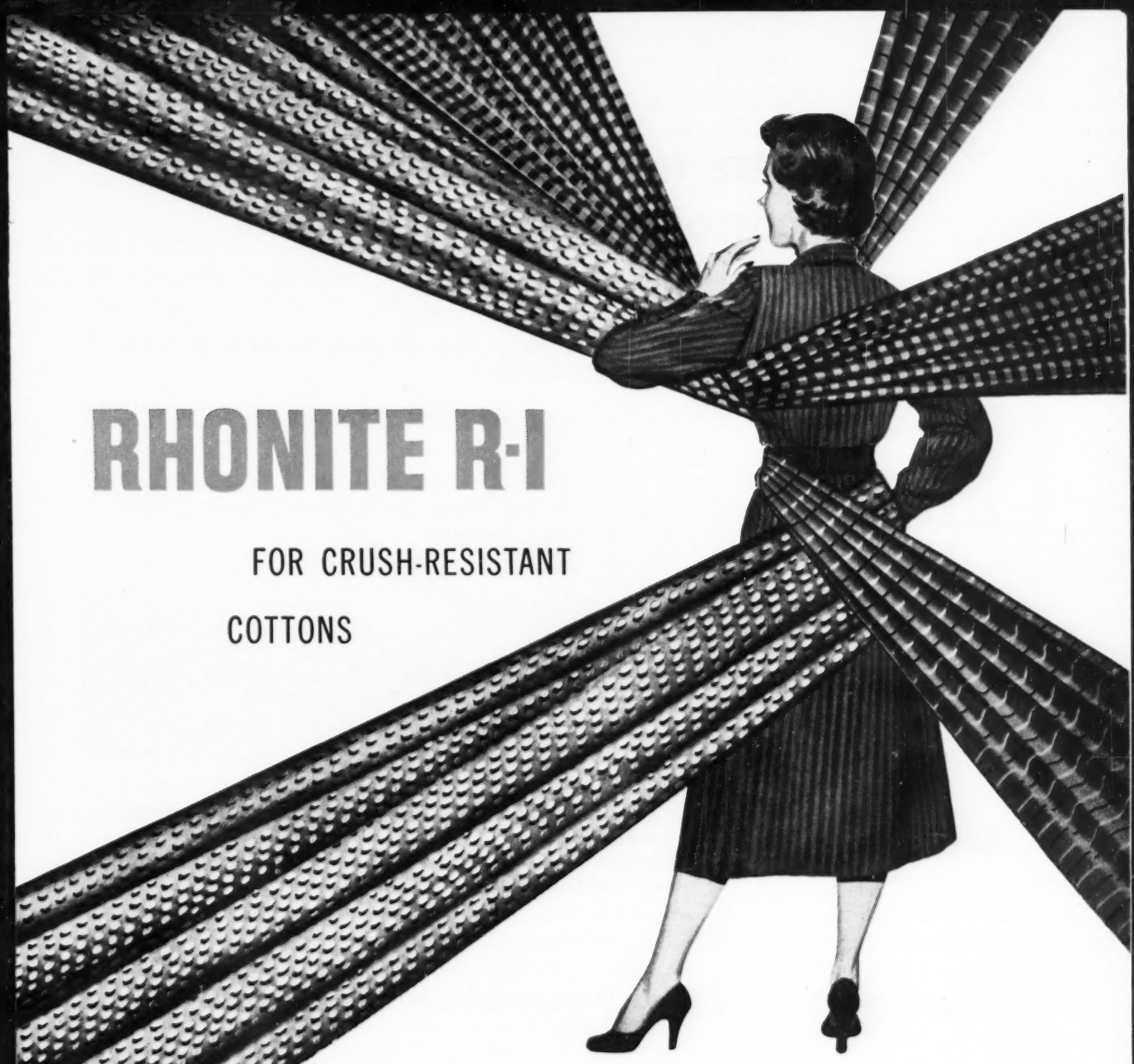


RHONITE R-1

FOR CRUSH-RESISTANT COTTONS

For cotton dress goods that are permanently crush-resistant, you can depend on RHONITE R-1. This washfast resin imparts to cottons, rayons and blended fabrics a crush-resistance and stability so durable that repeated washings can't dull their crisp good looks.

In plain, calendered or embossed finishes, RHONITE R-1 produces this same resistance to crushing and wrinkling, makes fabrics withstand many launderings and still retain a lasting beauty.

For unusual crush-resistance, it pays to use RHONITE R-1.

Write or call for complete information about RHONITE R-1—one of the quality chemicals for textile finishing made by Rohm & Haas Company.

TEXTILE CHEMICALS

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

RHONITE is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

COMPLETE PREPARATORY EQUIPMENT FOR COTTON AND SYNTHETIC FIBERS

OPENING	Steel and Cast Iron Blending Feeders. Aldrich Cylinder Openers.
CLEANING	Aldrich-Lummus Super-Jet Cotton Cleaning System. Lummus Gyrator.
PICKING	Aldrich Synchronized Single Process Pickers. Two-Process Pickers for Synthetic Blends.
BLENDING	Aldrich-Lummus Fiber Blending System for small Productions. Special Blending Systems for Blending and Baling any Textile Fibers.
REBUILDING	Pickers Rebuilt in Old Frames with all Completely New Parts.
REPAIR PART SERVICE	Repair Parts are Shipped the Day the Order is Received. Complete Stock of Parts for Aldrich and Kitson Pickers Always on Hand.

AldricH MachinE WorkS

Greenwood, South Carolina

Seal of Achievement

in textile research

In the last fifty years we have witnessed — and made significant contributions to — the technical progress and steady growth of the textile industry. Continuous cooperation between this industry and our research and field staffs is the key to our successful development of an impressive group of efficient products for textile application. The latest of these —HYDRO-PRUF* — has created a revolutionary advance in water repellency standards. From laboratory to mill application — from theory to practice — Arkansas personnel know your problems and work with you to solve them.

*REG. U.S. PAT. OFF.

ARKANSAS CO., INC.

Serving the Textile Industry for Half a Century

NEWARK, NEW JERSEY

Originators of

HYDRO-PRUF

the silicone resin water repellent

BLEACHING
DEGUMMING
DISPERSING
DELUSTERING
DYEING
FULLING
KIER BOILING
LUBRICATING
MILDEW-PROOFING
MOTH-PROOFING
PENETRATING
SCOURING
SHRINKAGE-CONTROL
SIZING
SOAKING
SOFTENING
STRIPPING
THROWING
WATER-PROOFING

. . . the new . . .

JOHNSON Rotary Pressure JOINTS

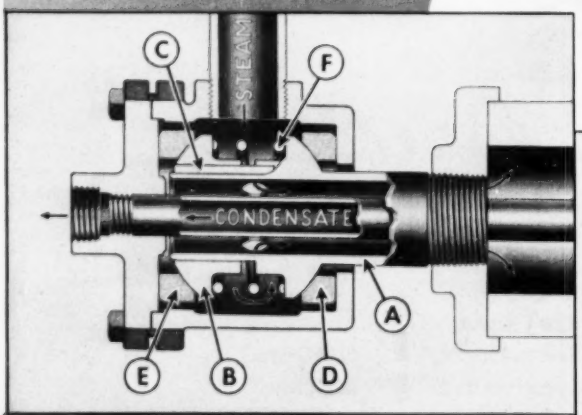
. . . to put steam or fluids into rotating machine parts . . .

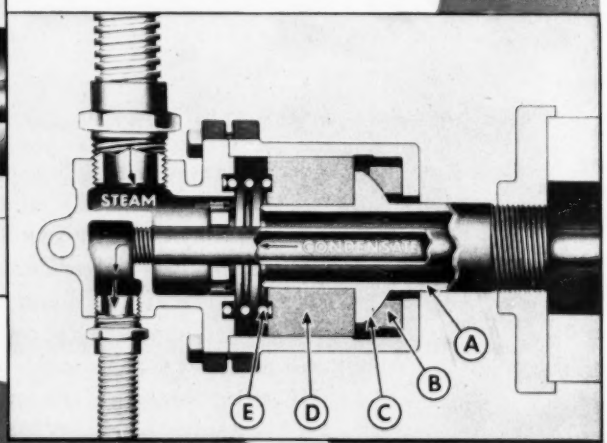
For years the Johnson Joint has been the most efficient, economical way to put heating or cooling agents into rotating rolls and cylinders. Adopted widely in the rubber, paper and textile industries, it is finding more and more applications all the time throughout industry.

Now Johnson Joints are better than ever. The new design is smaller, lighter weight and easier to handle. They cost less. Their wearing parts—the carbon graphite seal rings—have been redesigned for even longer life.

As always, they offer the basic advantages of being completely packless, self-lubricating and self-adjusting to varying pressures. Their simplicity of design makes them easy to service or repair right in the field. It has always been true that Johnson Joints quickly pay the cost of switching over, but never more so than right now. If you haven't fully investigated Johnson Joints don't fail to get the facts.

Available for all operating conditions—either through flow or syphon pipe service. Large range of sizes, covers wide range of pressures. *Write today for new Bulletins.*





NEW TYPE J

The Type J is basically the same Johnson Joint which has written an unequalled service record, and which has been adopted by so many machinery manufacturers. Besides reducing costly, hard-to-handle bulk, the new Type J brings many other refinements. The inlet is now in the side of the body, which makes easier both the piping hook-up and the task of properly centering the joint. The head design has been simplified to permit condensate outlet connection in any direction. There is also provision for a special assembly plate, between head and body, to facilitate removal of modern mechanical syphon pipes.

Cross-section view shows how nipple (A) is connected to roll or drum. Collar (B) is keyed at (C) to rotate with nipple, but fits loosely so pressure can fill entire housing. Seal ring (D) and bearing ring (E) are of special carbon graphite. Spring (F) is for initial seating only; in operation pressure is sealing force. Note self-aligning characteristics—the space around rings and nipple to provide for lateral movement of rotating assembly, and the spherical seating for angular movement.

NEW SERIES 2000 TYPE S

The Type S was big news when it was first introduced—as the self-supporting version of a device that was already the best known, most widely used of its kind. Now the new Series 2000 Type S is even better, offering size savings, weight savings, cost savings and even longer life.

Cross-section view shows how nipple (A) is connected to roll. Carbon-graphite seal ring (B) rotates against convex surface of collar (C). Joint assembly is supported by guide (D), which is also of long-lived, self-lubricating carbon graphite. Spring (E) is for initial seating only; in operation joint is pressure sealed.

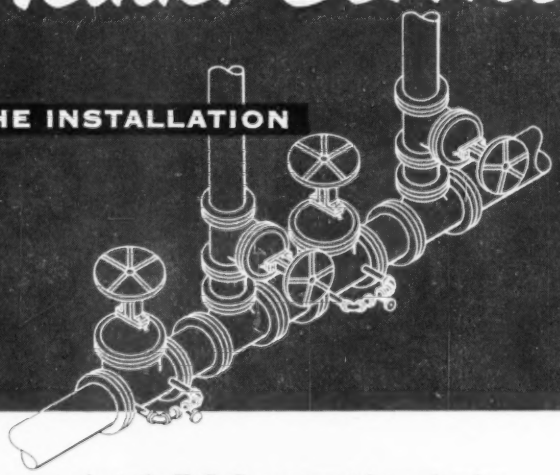
Products of The **Johnson Corporation**

815 WOOD ST., THREE RIVERS, MICH.

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

Holding Tight Since 1917 On Boiler Header Service

THE INSTALLATION



In power plant of a U. S. Government Arsenal, using Crane 14-inch 300-pound steel gate valves in main steam header operating at 135 pounds, 380 degrees F.

VALVE SERVICE RATINGS

SUITABILITY:	No failure in 36 years
FEATURES:	100% heavy duty design
MAINTENANCE COST:	No repairs to date
SERVICE LIFE:	Installed 1917 – still O.K.
OPERATING RESULT:	Increased plant efficiency
AVAILABILITY:	Crane catalog item – Current No. 33XR

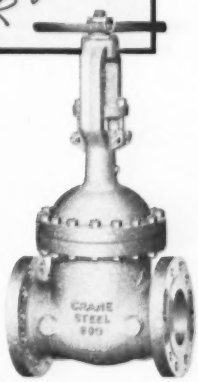
THE CASE HISTORY

Installed in 1917, these Crane valves have given completely satisfactory service for 36 years without needing repairs of any kind. Inspected in 1951, they showed no undue wear in any part, and a 125-pound hydrostatic test found them absolutely tight. Right back into the header they went, where they're still giving like-new service.

In a period of plant expansion, other makes of valves were tried in the same header service. But those valves gave constant trouble, whereas when replaced with Crane valves, satisfactory results were obtained.

Here's an example of the confidence you can put in a name that traditionally means better quality. For what good is a price without the assurance of product dependability and good value. You're safer—always—when you choose Crane.

THE VALVE



Here is steel casting skill at its best, by the pioneer in steel valves. Here also is leadership in design and manufacturing that sets Crane Steel Valves apart from the ordinary. Choose these valves for your specific needs from the widest range of body and trim materials, in all pressure classes and sizes, with flanged, screwed, or welding ends. See your Crane Catalog.

THE BETTER QUALITY... BIGGER VALUE LINE... IN BRASS, STEEL, IRON

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

MEON MAGIC

When you apply MEON to cotton at the wet twisting operation, using from 1% to 3% solution in water, you'll agree MEON really works magic.

Here's Why:

• INCREASED BREAK STRENGTH

Since a considerable increase in BREAK STRENGTH can be obtained with MEON TREATMENT, many mills have found it possible to start with a shorter staple cotton and still produce a product meeting the minimum BREAK requirement *which formerly required a more costly raw material.*

• SETS THE STRETCH

MEON treatment is also an aid in maintaining the degree of elongation imparted to the yarn in processing, and produces *greater uniformity.*

Learn how MEON will benefit you and write for full particulars today.

BORNE SCRYMSER Since 1874

Our Laboratory Facilities are always at your disposal

Other MEON *Uses*

- As an emulsion or size inhibitor and stabilizer when dissolved first in ½% to 1½% solutions with water before emulsifiable oils or size compounds are added.
- As a fibre lubricant and softener when 1½% solutions are applied in the amount of 1½% – 2% total volume, by weight, on cotton, rayon, wool, or other wastes before reworking.
- As a surface active agent when using 0.1% to 0.5% solutions in innumerable applications where rapid wetting and increased penetration is desired.
- MEON in solution is used in connection with the garnetting of hard thread waste (both cotton and synthetic). Application is generally after garnetting, and gives more drag to the short fibres produced and thus permits more efficient carding and spinning.

BORNE, SCRYMSER COMPANY ELIZABETH, N. J. • CHARLOTTE, N. C.

A New Masterpiece of Design

This masterpiece of design and workmanship, the Rospigliosi Cup, was created in the sixteenth century by the famous Florentine goldsmith Benevenuto Cellini.

Like all honest craftsmen, we strive for the finest in design and workmanship. For over fifty years Van Vlaanderen has built superior jigs. Our newest, The Dyemaster, is the last word in an all-fabric jig.

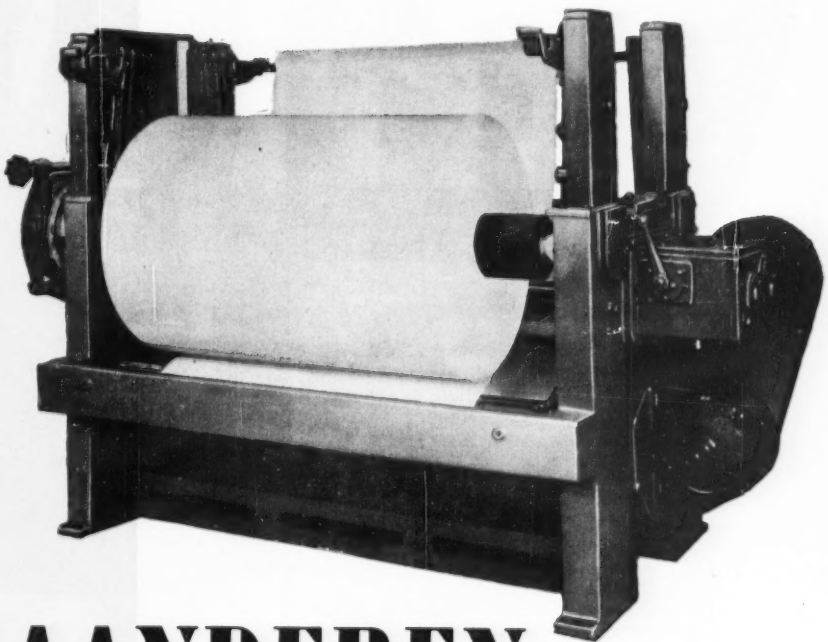
The Dyemaster is built to meet the exacting requirements of American dyers, with American standards, parts and dimensions. It is the most versatile jig built today.

CONSTANT CLOTH TENSION. The Dyemaster can be preset for practically no tension for sheers to full for cotton ducks.

CONSTANT CLOTH SPEED. The Dyemaster achieves near constant cloth speed through a special differential transmission—greatly contributing to even dyeing results.

AUTOMATIC CONTROL. The Dyemaster has a new control which can be preset to automatically control starting, reversing and stopping after predetermined ends. Quality dyeing becomes much less dependent on the operator's alertness and skill.

OTHER FEATURES. A new main drive gear box, especially designed for this machine by Van Vlaanderen for the highest efficiency; 34 in. batch rolls for highest production; tension-free loading and unloading by exclusive Van Vlaanderen arrangement; oscillating expander, now equipped with dampening device for smoother reversing; 15 in. brakes with malleable iron brake-lined shoes and over-running clutch; totally enclosed transmission and chains running in oil; stainless steel tub, bearings and other parts liable to corrosive action. Why not arrange to see this machine in action? Phone, write or telegraph for appointment.



VAN VLAANDEREN

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, • Paterson 3, New Jersey

Cable address: Vlaanderen, Patersonnj, U.S.A.

In the South — Parrott and Ballentine • 610 South Carolina National Bank Building • Greenville, South Carolina

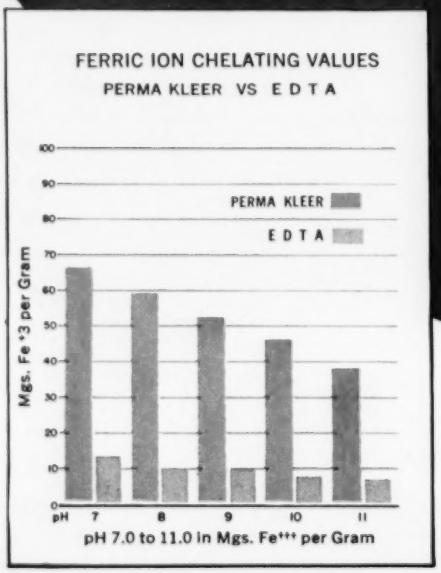
WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS

PERMA KLEER

400% MORE EFFECTIVE

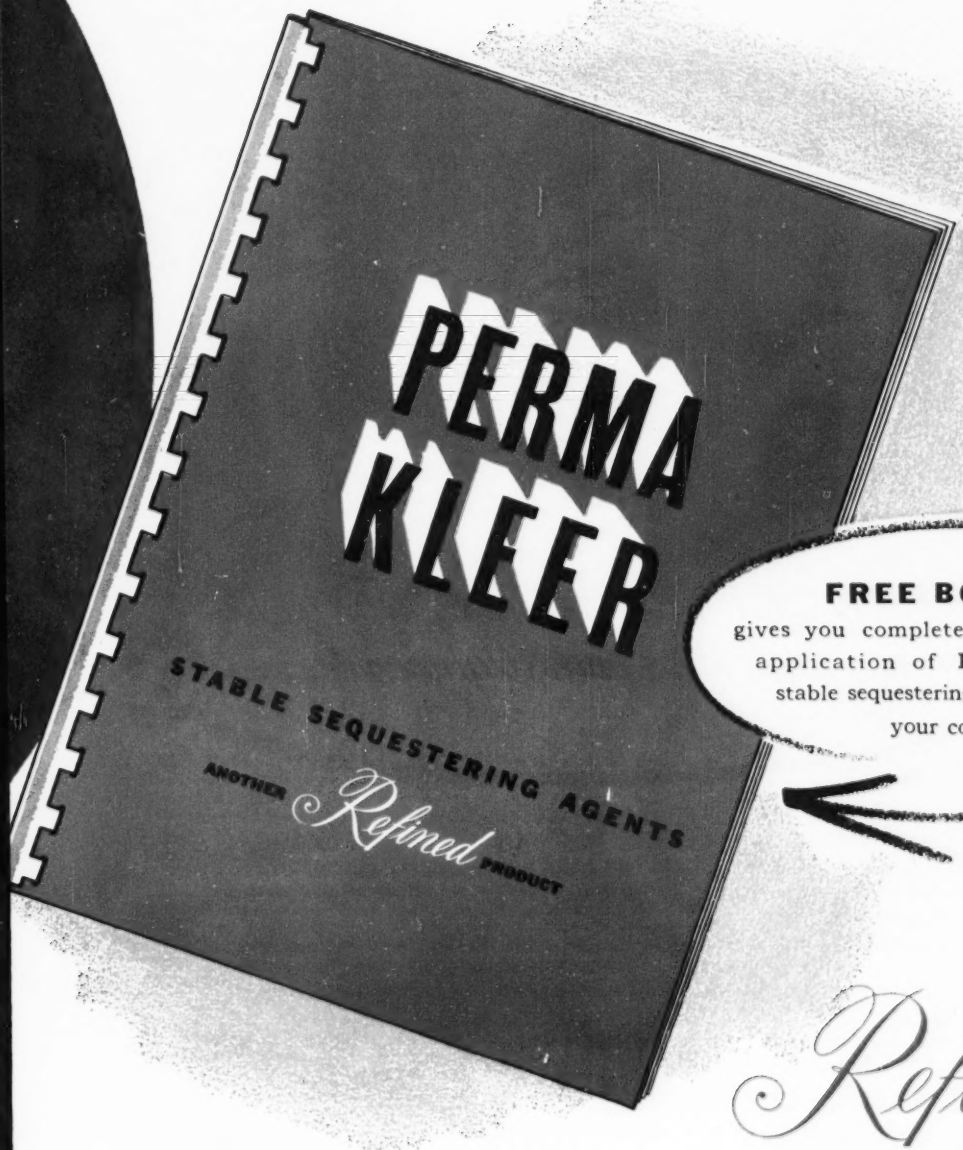
THAN E.D.T.A.

IN IRON SEQUESTRATION



Iron stains are a major problem to textile processors. The PERMA KLEERS' greatly superior iron chelating properties, and also increased calcium sequestering values, make them outstanding textile chemical auxiliaries.

Proven versatility, stability and efficiency make the PERMA KLEERS the most economical sequestering agents available. A trial will convince you, too.



FREE BOOKLET
gives you complete details about the application of PERMA KLEER stable sequestering agents. Write for your copy today.

Refined

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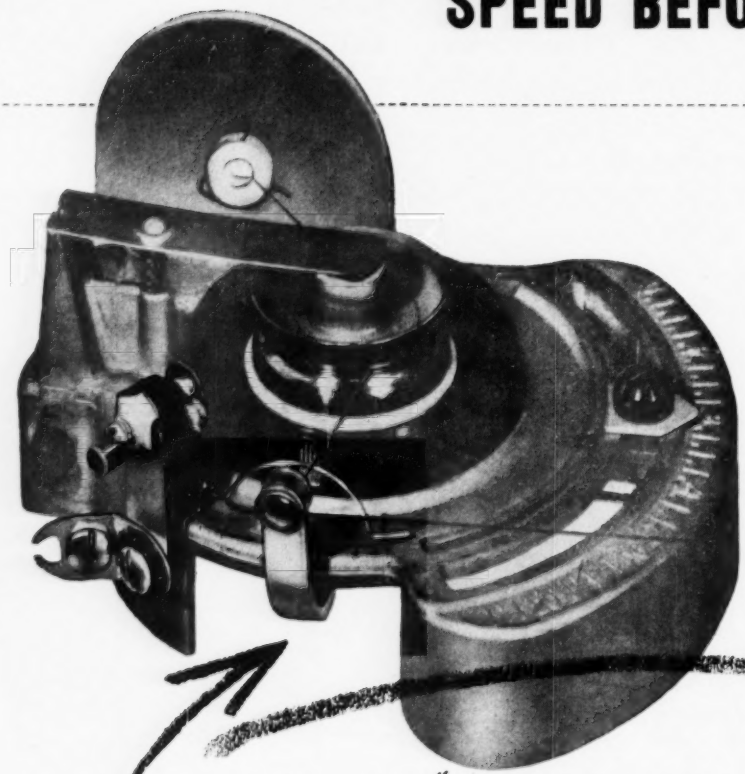
YOU NEVER SAW SUCH SPEED BEFORE...



this new "STOP-MOTION" shuts off the loom for broken ends, loose ends, tight ends...

It's *brand new!* We call it the B. L. T. Warp Compensator Stop Motion because a Broken, Loose or Tight end halts the machinery automatically.

It can be added to any model Kidde Warp Compensator regardless of the year of manufacture.

The B. L. T. Stop Motion in combination with the Kidde Warp Compensator will give you smooth, even beams, preventing shiners, stressed yarns, lost ends, crushed or warped beams by allowing you to control yarn tension with accuracy.

This may be the answer to your tension problems. Remember, more than 500 textile mills are now using Kidde Tension Compensators.

Write today for full information.

Kidde

Walter Kidde & Company, Inc.
1290 Main Street, Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Where Smoothness Pays Off ...for You

Smoothness is the big reason why many textile mills use Synthane laminated plastics for the balloon separator blades on their twisting machines.

The hard, smooth surface of Synthane reduces abrading of the yarn. Should the blades, by chance, become scratched they're easy to repolish.

Smoothness is only one of the properties that make Synthane valuable throughout the textile industry.

Bobbins machined from Synthane resist the action of yarn sizing solutions. Synthane's light weight makes starting and stopping of bobbins and pirns faster, uses less power. Dynamic balancing of bobbins reduces vibration, steps up allowable spindle speeds. Synthane's high compressive strength combats the crushing force of nylon yarn.

Furnisher rolls made from Synthane do not absorb moisture or dyes. Because Synthane weighs little, is dimensionally stable, strong and tough, and can be easily machined to a smooth, non-snagging finish, it is an ideal material for pressure rolls and measuring rolls.

Synthane products for the textile industry also include drier poles, dye sticks, caps for nylon sizing bobbins, high-strength headless package take-up tubes, caps for orlon and nylon shipping pirns, a new collapsible bobbin and many others.

Learn more about how Synthane can help you. Write today for your copy of the Synthane Textile Product Folder Synthane Corporation, 13 River Road, Oaks, Pennsylvania

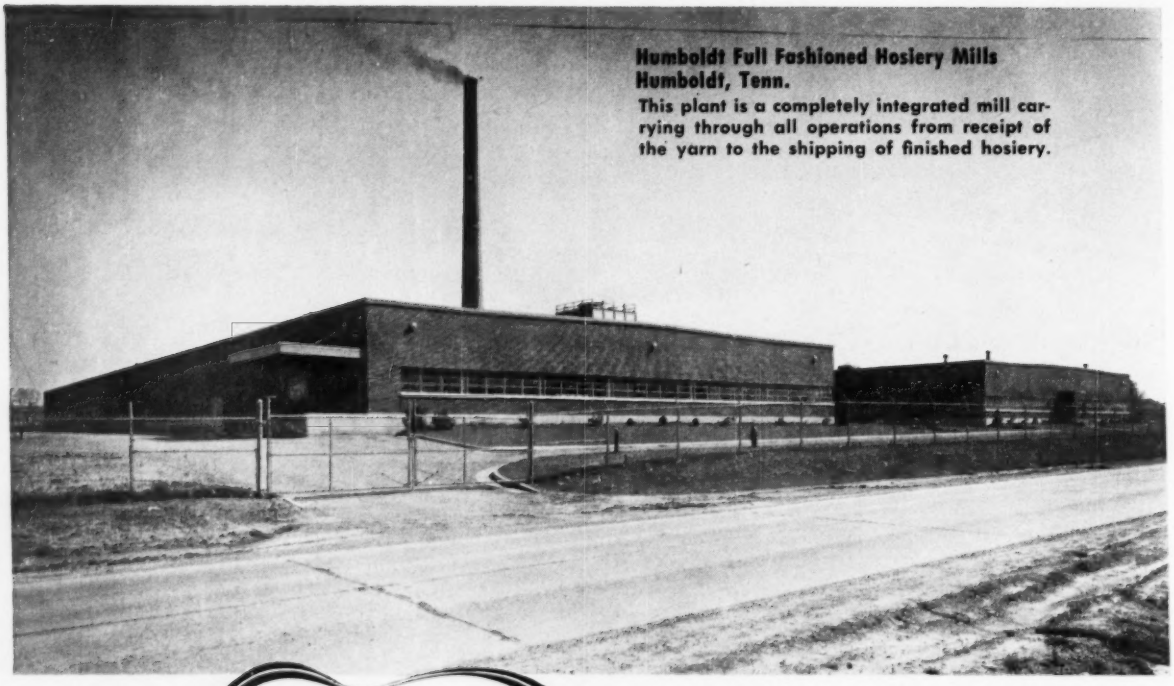
Synthane—one of industry's unseen essentials

Furnisher rolls, pressure rolls, measuring rolls, nylon sizing bobbins and caps, headless package tubes, pirns, redraw caps, and hosiery turning and examining forms are a few of a long list of textile parts made from Synthane.

SYNTHANE

OAKS, PENNA.

LAMINATED PLASTICS



Humboldt Full Fashioned Hosiery Mills
Humboldt, Tenn.
This plant is a completely integrated mill carrying through all operations from receipt of the yarn to the shipping of finished hosiery.

LOCKWOOD GREENE

Projects

in

KNIT GOODS

Lookwood Greene has completed over 300 engagements in the Knit Goods field and has had over 4,000 engagements in the entire textile field.

LOCKWOOD GREENE

ARCHITECTS-ENGINEERS

BOSTON 9, MASS.	NEW YORK 20, N. Y.	SPARTANBURG, S. C.
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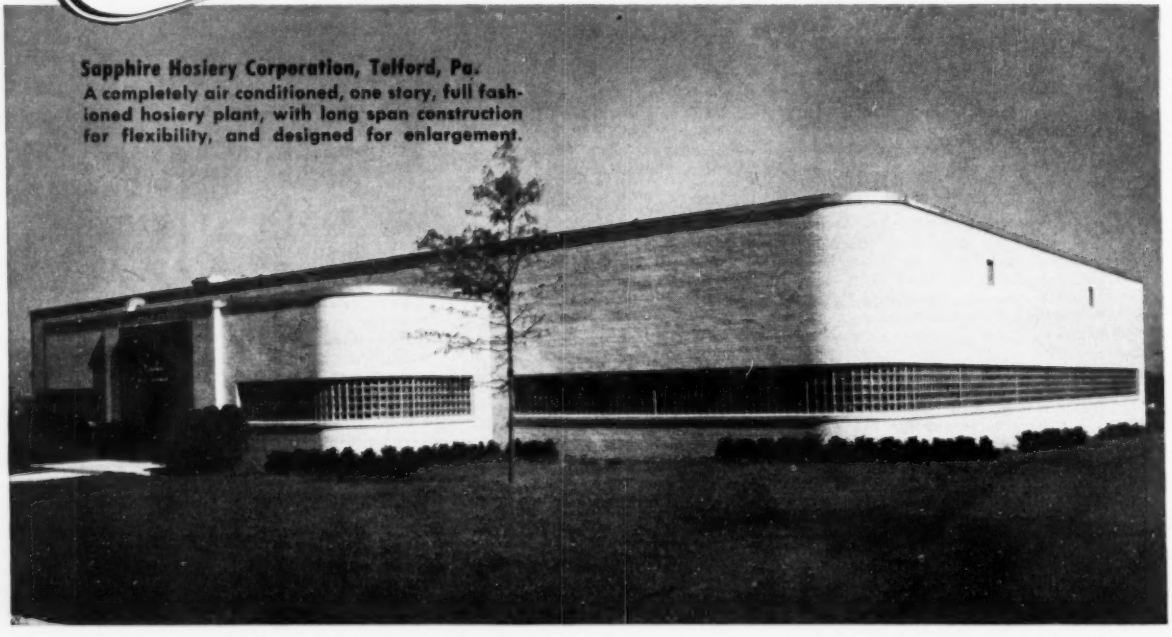
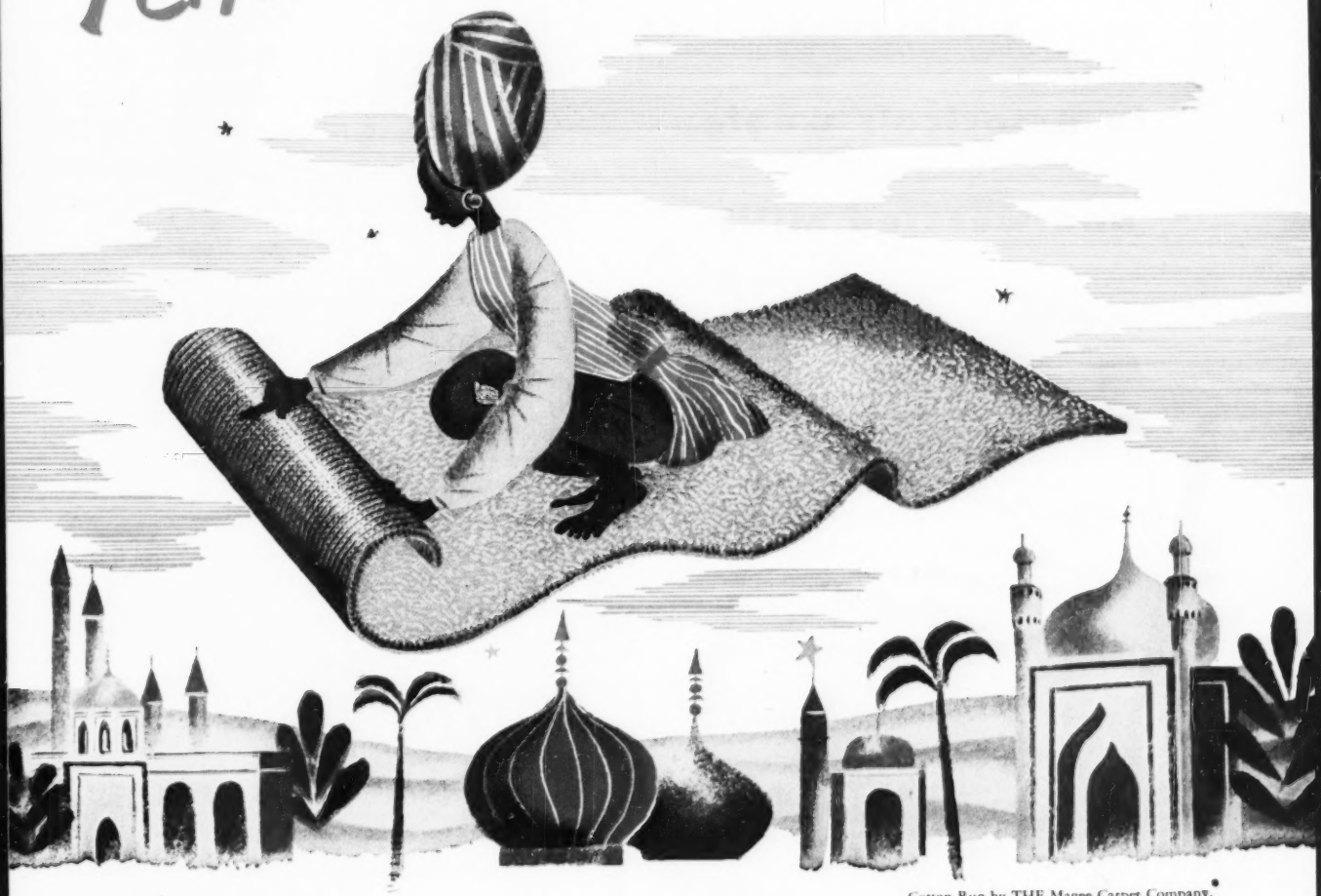


Sapphire Hosiery Corporation, Telford, Pa.
A completely air conditioned, one story, full fashioned hosiery plant, with long span construction for flexibility, and designed for enlargement.

LOOK HOW LOTOL

Performs carpet magic!



Cotton Rug by THE Magee Carpet Company, in 15 beautiful colors.

Here's an achievement cotton carpet manufacturers everywhere will be glad to hear about. It means finer quality carpets *at no greater cost!*

"LOTOL"® is the magic compound — an amazing new latex from the laboratories of Naugatuck Chemical. Especially developed for cotton rug backing, it's now being used by Magee*. And look at the advantages it brings.

Locks pile for life! New LOTOL anchors the face yarn to the carpet backing *flexibly, permanently.*

Improves carpet properties! This remarkable new compound gives carpets finer "hand" or body, more resilience, greater weight, better feel, and good tacking strength. What's more, it prevents raveling, wrinkling, and slipping.

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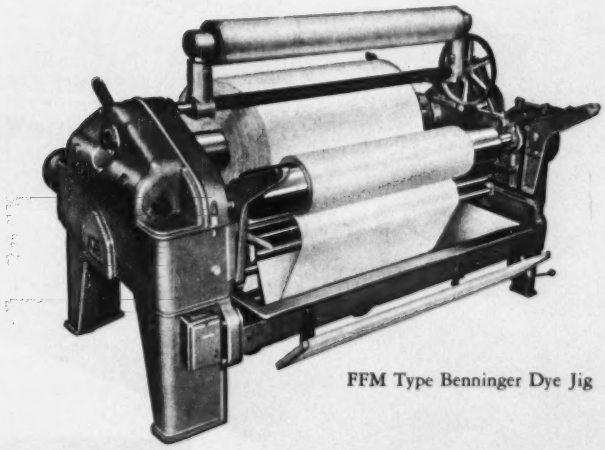

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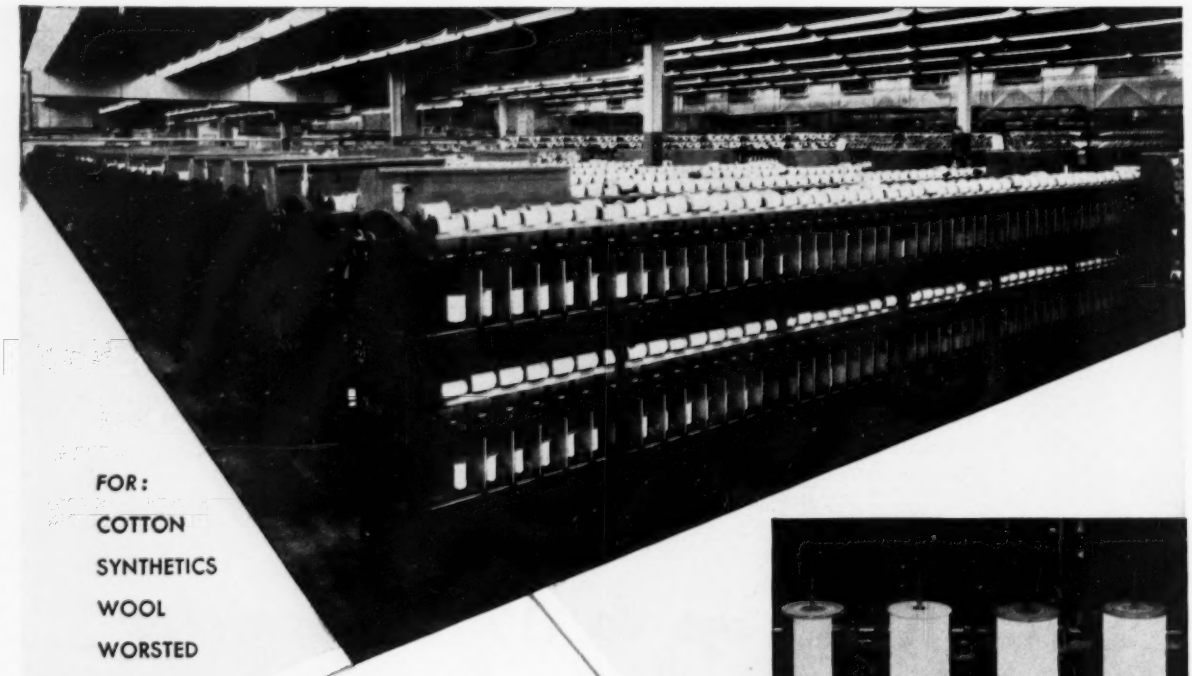

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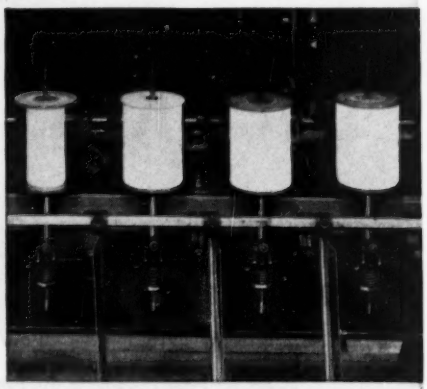

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This mill tested a frame of Marquette Roller Bearing Spindles in 1945, and now has 32,354 of these spindles in operation. As in other mills, Marquette Spindles have been purchased on the basis of their *superior performance.* They produce MORE YARN AT LOWER COST—because they carry large packages at high speeds, with no increase in power consumption. We'll be glad to prove, through a test installation, that Marquette Spindles will give the same results in *your* mill. Contact our home office or one of our representatives.

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News in Brief

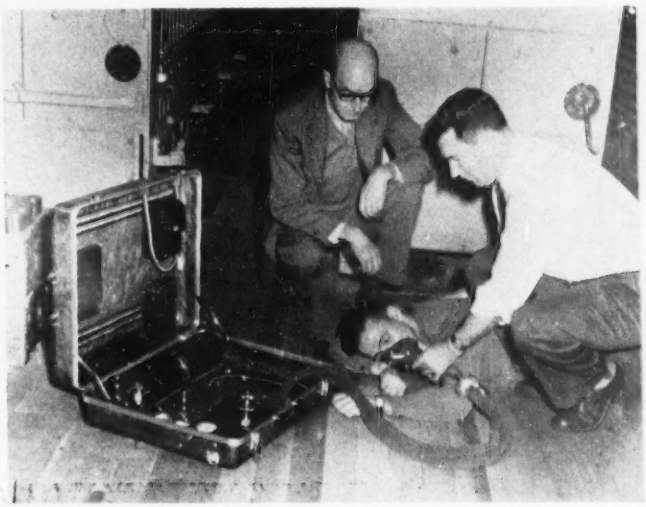
Mill Men Blame Gins. Mill men are currently registering complaints about the condition of cotton received at the mill. Two main criticisms are: gin saws apparently pull bits of seed through with the lint which is damaged, possibly a result of ginning too fast; and improper application of too much heat, thereby causing additional damage to the fibers. Some mills have refused delivery of cotton unless accompanied with a guarantee that no gin damage has been done. (See page 81 for more on this subject.)

FTC Rule Covers Blends. The Federal Trade Commission has amended labeling rules for wool products so that the percentage content of the respective man-made or re-used fibers may be disclosed in the required stamp, tag, or label in aggregate form as "man-made fibers," followed by the names of such fibers in order of their predominance by weight. For example:

70 per cent wool
30 per cent man-made fibers:
rayon
nylon
acetate

Interest in Full - Fashioned Sweaters. Full-fashioned hosiery manufacturers have recently shown interest in re-gauging hosiery machines to convert to sweater production. Several mills are investigating cost figures for the changeover.

Enemy May Strike at Technology. A potential enemy of the U. S. could weaken this nation far more effectively by striking subtly at American technology than he could by physical sabotage, Henry B. du Pont, a vice-president of the Du Pont Company, said recently. Speaking on "Blueprint for Disaster," he said the U. S. is more vulnerable to "economic sabotage" than it is to hostile action. He cited seven key spots in "the life stream of our technology" where restrictive action could endanger national security.



Firestone Textiles' Supervisors Learn to Administer Artificial Respiration

Helping to make every supervisor an expert in the prompt administration of artificial respiration in an emergency is this portable unit, recently added to the safety equipment at the Gastonia, N. C., plant of the Firestone Textiles Division, The Firestone Tire & Rubber Company. Here, Dr. W. B. Parks, plant physician, watches Safety Director L. B. McAbee fit the facepiece over the nose and mouth of J. B. Mitchell, pump maintenance engineer, during a demonstration of the instrument.

A development of Mine Safety Appliances Company, the Pneolator administers artificial respiration automatically to revive victims of accidental asphyxia and for the emergency treatment of respiratory ailments. The instrument is kept in the plant's first aid room where it is immediately available when needed.

Mills Can Help Increase Textile School Enrollment. One way is to interest local high school students in textiles as a career. Here's the method Jefferson (Ga.) Mills used last spring: The senior class in Jefferson was invited to dine at the mill. After dinner and a few general comments about the textile

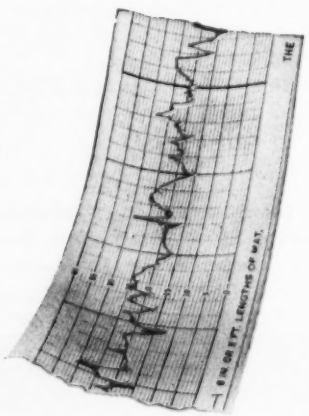
"We improve quality evaluation with Brush Textile Uniformity Analyzers"

The Cotton Department of the Deering Milliken Service Corporation reports: "Chart records made by the Brush Uniformity Analyzer are of great value in our research, development, and mill service . . . uniformity tests are highly important in the evaluation of new equipment, processing conditions, and modifications to machinery".

Likewise, in actual mill operations at Deering Milliken, Brush Analyzers improve quality control. The instruments provide a definite numerical value for quality of yarn, roving and sliver, and also aid in trouble-shooting.

The Brush Uniformity Analyzer, originally designed by the Institute of Textile Technology, is highly sensitive; irregularities as short as ½ inch in a length of yarn are detected. The chart record is immediately available, and can be kept for future reference. Yarn samples can be charted as fast as 1000 feet in 3 minutes. The instrument can be operated by anyone after a brief instruction period.

The Uniformity Analyzer® is sold and serviced through regular Brush representatives located throughout the U.S. For information write Brush Electronics Company, Dept. **T-12** 3405 Perkins Avenue, Cleveland 14, Ohio. Canadian Representatives: A. C. Wickman Limited, Toronto.



This sample chart of roving indicates gross deviation from nominal weight per unit length.

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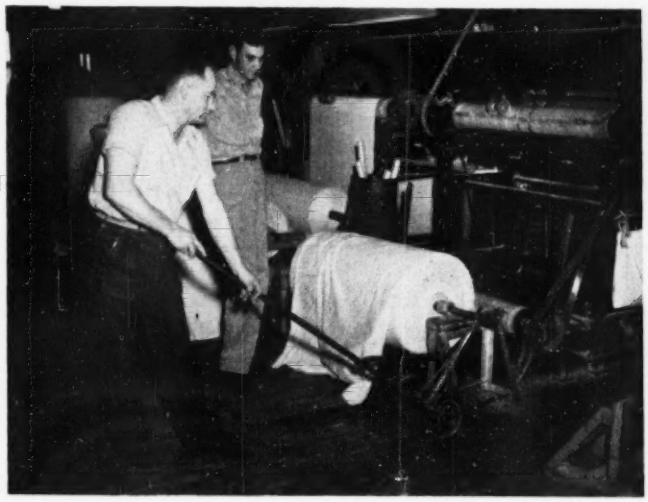

Cloth Rolls Heavy?

Cloth rolls were lifted by hand onto the holders at the back of inspection frames in the cloth room of Joanna Cotton Mills Co. until Herman Morris and Harvey Mills simplified the job considerably by an application of Archimedes' leverage principle.

The lifting device shown here was made in the Joanna shop from ideas and sketches by Messrs. Morris and Mills. The device can be easily rolled around the cloth room, and with it the rolls can be quickly lifted onto the frame with a minimum of effort.

industry, attractive booklets which told of the opportunities offered the trained textile school graduate and also The Textile Education Foundation's scholarship plan were distributed. Finally the students were conducted on a tour through the plant. Jefferson's president, Morris M. Bryan, Jr., enthusiastically recommends the procedure to others.

Consumer's Net Worth Up. Each American consumer is about $500 to $1,000 richer in net worth than he was three years ago, according to the Federal Reserve Board. Early in 1953 the median net worth of consumers was $4,100; the proportion having $5,000 or more was up a little, and so was the proportion with debt in excess of reported assets.

Canadian Duties on Nylons. Dumping duties are now being applied to low-priced exports of nylon stockings from the U. S. to Canada. Canadian Customs believes that since the low prices have become more than a temporary affair, the valuations shown in export declarations do not yield a "fair" market value.

QM Needs Textile Technologists. Civil Service has announced an examination for textile technologists for the new Quartermaster Research and Development Command now being constructed at Natick, Mass. Positions to be filled range from $4,205 to $9,600 per year. For information and application forms, write Board of United States Civil Service Examiners, Quartermaster Research and Development Command, Natick, Mass.

College for Harris Tweed Makers. Lews Castle College has been established in the Hebrides to teach weaving and other traditional industries and crafts for which these Scottish islands have become famous. Harris Tweed is the product of looms in the Hebrides.

Rhode Island School of Design Anniversary. Rhode Island School of Design, Providence, R. I., celebrated its 75th anniversary October 24. W. Ralph MacIntyre, president of Joseph Bancroft and Sons Co., Wilmington, Del., delivered the principal address at the convocation in the college auditorium.

Wool Socks With Rubber Give Long Wear. Trials involving 303 men wearing 1,184 pairs of socks, have proved that socks made with wool processed with natural rubber latex do not shrink and will give long wear. The patented process is the result of research in the laboratories of the British Wool Industries Research Association at Torridon, Leeds, Yorkshire, England.

Neps Again. The importance of not over-working cotton in the opening room will again be emphasized in a report soon to be released by the Institute of Textile Technology. The report will give results of tests in which 20 mills cooperated. In every case, nep count could be directly related to the amount of opening—more waste in the opening line, more neps in the card web. On the other hand, the mills which made the most card waste also had the lowest nep counts. Moral: work cotton a minimum in opening, take out the necessary waste in carding.

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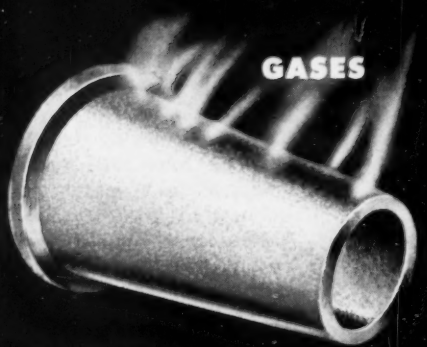

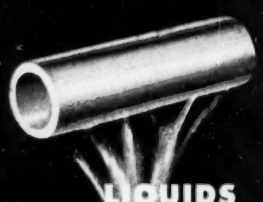

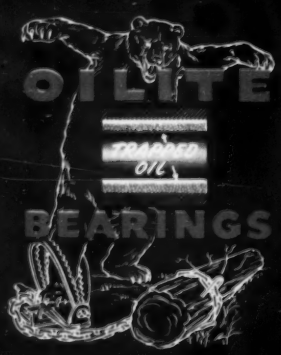

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News in Brief

$26,000 Verdict Against Union. A southern textile operative has been awarded $26,000 in an action against six persons and the union. The operative maintained he had a right to work when he wished to. He charged that the individual defendants, acting in behalf of the union, surrounded, assaulted, and struck him down from behind. All this was part of a union conspiracy to prevent him from working, he claimed. The operative stated that he had remained on strike until his money was exhausted, and when he tried to go back to work the attack occurred.

Calculator Projects Sales. Remington Rand's electronic calculator is being used to deliver a series of important business forecasts. The unit sifted hundreds of facts from data reported by the Federal Reserve Board to pin down trends in seasonal buying over the 12-year period from 1941 to 1952. The machine also projected these trends to indicate how people may be expected to buy 28 basic lines of merchandise in the nation's stores during 1954, provided the trends continue, and barring a major change in the economy precipitated by war or an abrupt recession. Projected data indicated that sales in 1954 will duplicate the experience in 1952.

Booklet on Outlets for Cotton. A publication titled "Market Outlets for Cotton in Some of the Principal Cotton Fabrics," Supplement II, has been issued; available from the United States Department of Agriculture, Production and Marketing Administration, Cotton Branch, Washington, D. C.

Stockings in Europe. In France, prices have been dropped on women's stockings. In Switzerland, decorated heels are the vogue. Pastel shades are favored, and another novelty of the moment is the permanently pleated stocking.

Drop in Exports to Cuba. The drop in exports of American cotton and rayon textiles to Cuba in the two years that have elapsed since the so-called Torquay tariff agreement went into effect amounts to 56,268,978 square yards, according to a report from the Textile Export Association.

Hallett Says Train Management. Commending the recent start of a better system of two-way communications between textile industry leaders and the deans of the ten textile colleges, H. K. Hallett, president of the American Cotton Manufacturers Institute, recently suggested that there might be a "real need" for a one-year textile course for college graduates, particularly college graduates of the liberal arts schools. He said there seemed "real merit" also in the trend toward selective advanced management training, started by Harvard Business School some years ago, and added that he was happy to note that the University of North Carolina is starting a course designed for men already carrying major executive responsibilities.

Suggestions Wanted for Census. The Intensive Review Committee of the Bureau of the Census has requested those who use the census to suggest ways by which the Bureau may improve its services and gather information more efficiently and at less cost. Proposals should be addressed to Rexford C. Parmelee, executive secretary, Department of Commerce, Washington 25, D. C.

Mills Aid A.P.I. Students. Textile employees, some of whom have worked in mills for a decade or longer, are going back to school this year to prepare themselves for changing technology. Cleveland L. Adams, head of the school of textile technology at Alabama Polytechnic Institute, told those attending the annual Public Relations meeting of the ACMA in Birmingham that enrollment in the school currently is about two and one-third times as large as that of last fall. The new students include many textile employees who have learned the need for further technical training and, with the encouragement and aid of manufacturers, have entered college.

Less Shrinkage for Rayon-Cotton Goods. Northern Dyeing Corp., a textile converter, is now guaranteeing less than two per cent shrinkage of rayon-cotton mixtures. This protection for consumers has been extended to the company's entire line of bengalines, failles, and ottomans which bear the trademark "Super Characterized." Consistent maintenance of such a low rate of shrinkage has earned for Northern Dyeing Corp. the first seal of approval ever granted by Good Housekeeping for these fabrics.

No Need for Nightly Nylon Dunking. Instructions for care of nylon hosiery may be revised as a result of a survey. The National Association of Hosiery Manufacturers has not found any evidence that immediate washing has any effect at all on the wearing quality of nylon hosiery. Care of hosiery can be limited to a few minutes a week instead of being a nightly chore, and seven pairs of stockings can be washed with about the same amount of soap or detergent now used for one pair.

Association for South Africa. A manufacturers' association, with headquarters in Johannesburg, has been formed by the South African

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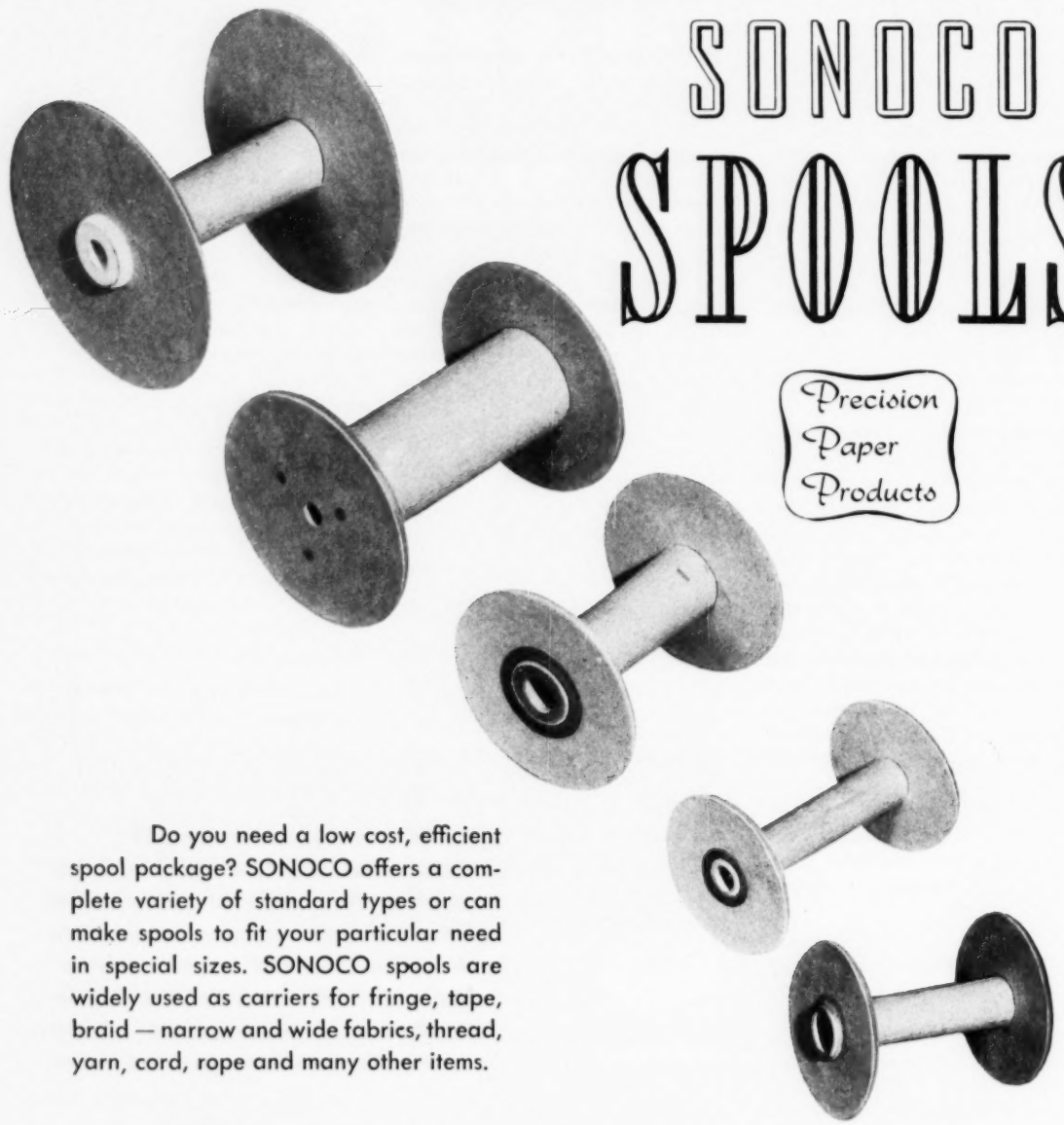
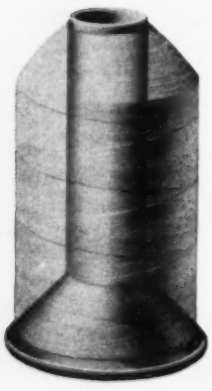


Do you need a low cost, efficient spool package? SONOCO offers a complete variety of standard types or can make spools to fit your particular need in special sizes. SONOCO spools are widely used as carriers for fringe, tape, braid — narrow and wide fabrics, thread, yarn, cord, rope and many other items.



SONOCO can also supply standard or special order tapered base, single head thread spools. Barrels can be furnished scored, and with smooth, flocked or ground surfaces, with color lacquer tips for special identification.

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YOUR 1953 INDEX of articles appearing in "Textile Industries" is loosely bound in this issue. Find and file it now. When problems arise in the mill later, it will come in handy for reference.

News in Brief

Cotton Textiles Industry. The new organization is a reflection of the growth of the industry in recent years, a Johannesburg spokesman stated. Capital investment is substantial and increasing steadily, according to reports.

New Fabric Testing Machine. The U. S. Navy Clothing Supply Office has announced that preliminary tests have been completed on a new method for determining the resistance to "pilling" of woolen and worsted type fabrics containing synthetic fibers such as nylon and Dacron. The Navy's testing machine works only on the surface of the fabric with a special abradant and a combined rolling and twisting action. The machine indicates the tendency of the fabrics to pill, how long the pills will last, and how objectionable they will be. (For details, see page 141, this issue).

For a Better Textile School at Ga. Tech. Some of the things that have been done or are currently being provided by The Textile Education Foundation, Inc., to build a greater A. French Textile School at the Georgia Institute of Technology in Atlanta are: Contributed more than $500,000 to provide the finest facilities, including buildings and equipment; supplement salaries of faculty members; sponsored preparation of a textbook on industrial relations (soon to be off the press); contributed to the production cost of a motion picture to help create interest of high school seniors in the school; established a scholarship program (five $2,400 scholarships are awarded each year); published a booklet "Opportunities Unlimited" to be used for stimulation of interest in textiles as a career. 278 students are currently enrolled in the textile school, capacity of which is 400-500.

F-F Hosiery Ads Sponsored by Machine Manufacturer. Textile Machine Works, Reading, Pa., is sponsoring an advertising campaign to sell the advantages of full-fashioned stockings to consumers. Instead of the company name, the ad signature is "Hosiery Fashions."

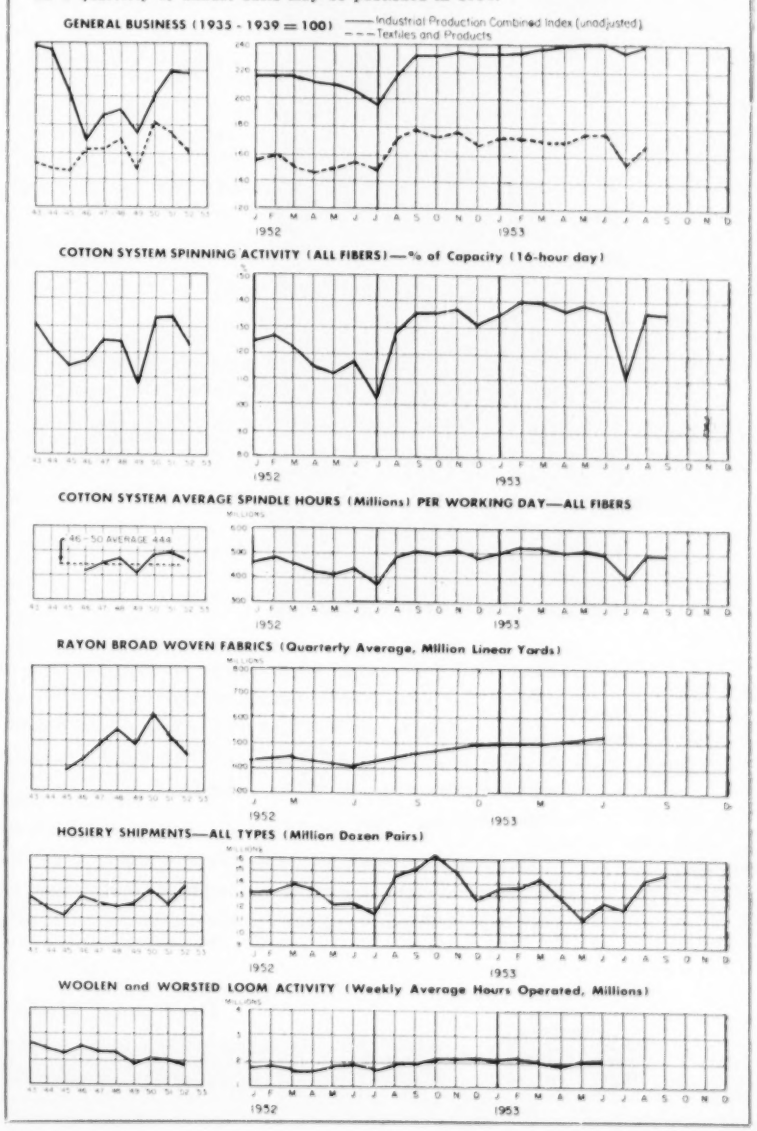
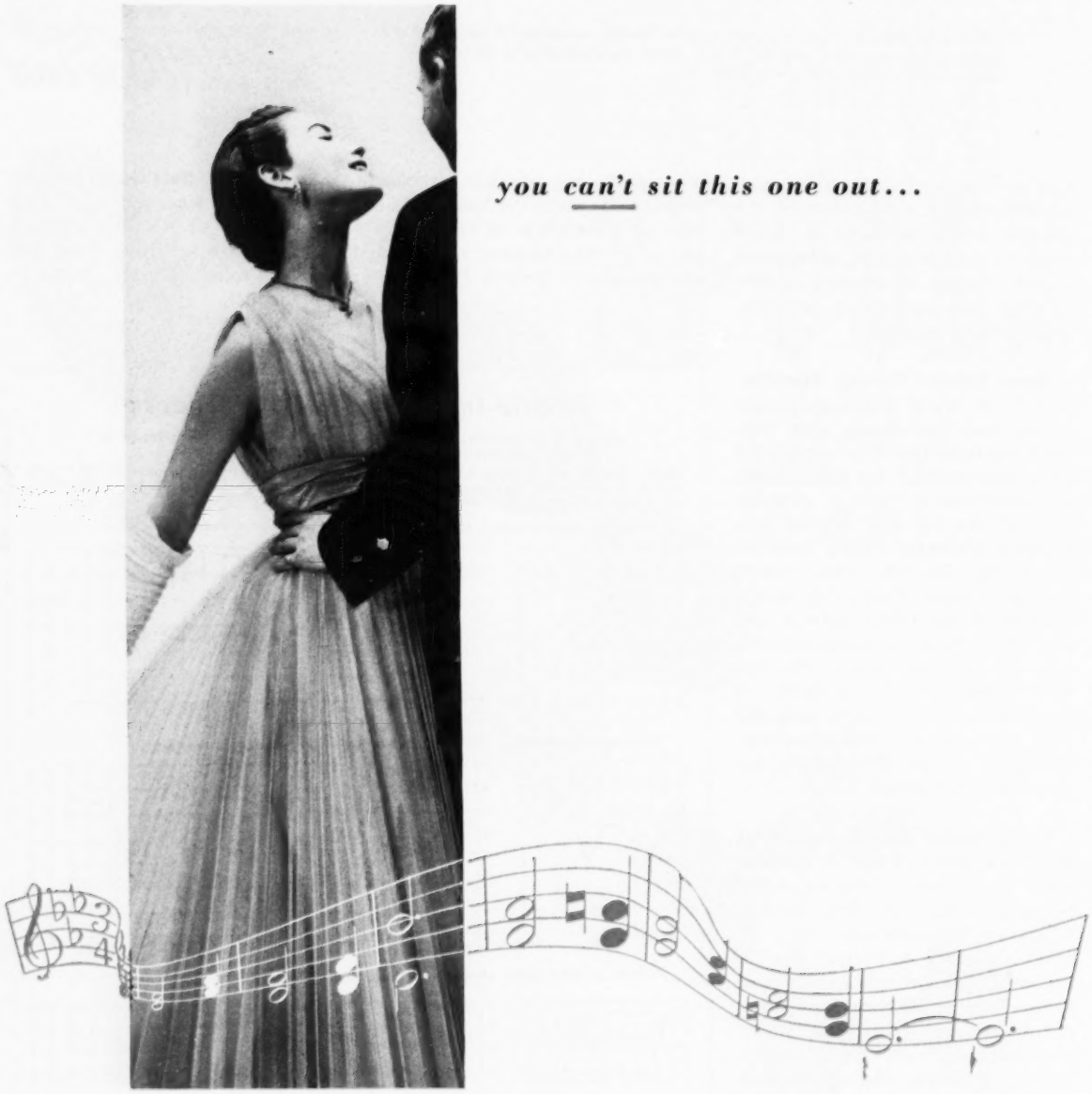
Army to Cut Soft Goods Buying. Plans call for a reduction in Army procurement of textiles, apparel, and footwear in fiscal 1954 and

(Continued on page 180A)

Textile Industry Activity Charts

Source of information: Bureau of the Census, U. S. Department of Commerce; National Association of Hosiery Manufacturers.

Note: Woolen and worsted loom activity for July and subsequent months of 1953 will not be published by Bureau of the Census because of reduction in funds. Information on a quarterly or annual basis may be published in 1954.



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Pleats that won't sit out when they're sat *on* are a boon that women have learned to look for—and are willing to pay for! And they're just one of many pace-setting advantages you can build into the fabrics you create by using Du Pont's "modern-living" fibers.

Other such exciting textile advances as thick and thin and crimpable yarns . . . and fibers that offer *built-in* shape retention, wrinkle resistance, and easy care . . . stem from Du Pont research for today's world. For today's customers *want* home furnishings and apparel that look better, wear longer, and require less care.

Use Du Pont modern-living fibers for the extras that spell a fabric success. Count on Du Pont's experience in fiber research to help you keep pace with the more demanding needs of today's customers.

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AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Overheating and Over Machining of Cotton

PERHAPS in no other year have textile manufacturers complained so bitterly about the type of cotton lint they are receiving from the gins. Various organizations have issued statements to the press, protesting against the fact that much of the cotton which reaches mill opening rooms is unsatisfactory from the spinning standpoint. Through all of these complaints is woven three words—overheating, overdrying, and over machining.

These difficulties are, of course, a product of the machine age. Twenty-five years ago, or even ten years ago, when cotton was picked by hand the process was slow, but it was very effective from the standpoint of the quality of the lint. The pickers went down row after row of cotton, dragging their pick-sacks behind them, and these sacks in time were dumped into high-sided wagons drawn by mules. The scene was a pastoral one, dramatized in stories, photographs, and movies.

The mule-drawn wagons moved slowly to the gins, where each load awaited its turn for the ginning process. Cotton which was wet was placed in drying sheds for a day or two, and here it was turned periodically so that the moisture would be removed naturally.

But the Rust brothers and others changed all of that. The machine age brought the mechanical picker. Huge machines churned through the cotton fields; almost overnight the production of cotton became Big Business.

Cost Reduction. The mechanization and the modernization of cotton planting and harvesting might be called "Operation Cost Reduction." It has long been an acknowledged fact that for cotton to compete successfully with man-made fibers and paper, the production and the harvesting of the fiber must be kept on a low-cost basis. As wage rates soared throughout the nation, mechanization was the only answer.

It soon became evident, however, that this would bring new problems to the cotton ginner. Lint which once reached him in a fairly clean condition and thoroughly dried was now reaching him with a considerable amount of leaf and stalk, and much of it had not been properly dried. It had been rushed from the cotton picker to the truck, and a few minutes later it reached the gin.

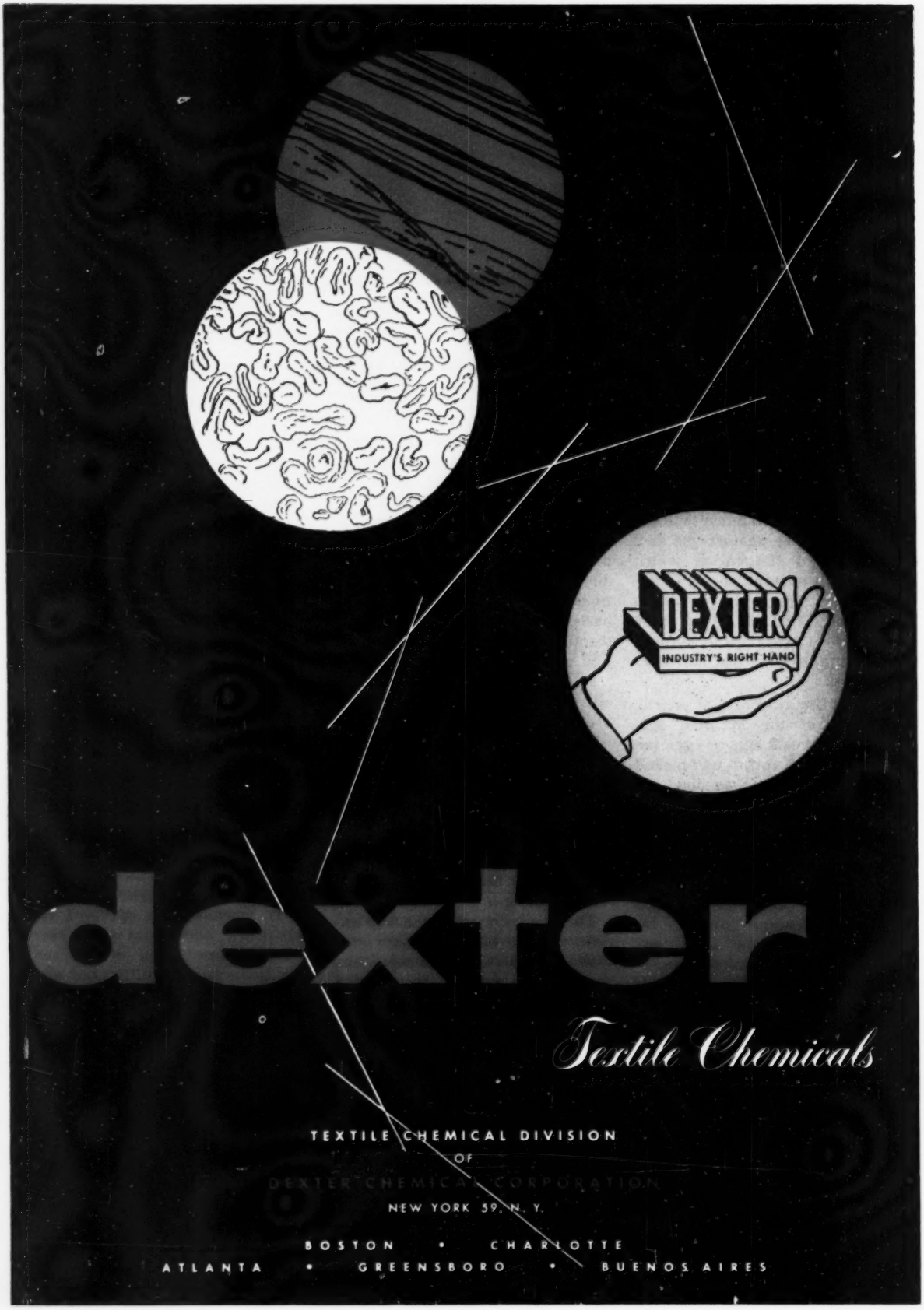
The truck driver's time was expensive and the truck itself was expensive, and the farmer was anxious to have both back in the cotton fields as soon as possible. He insisted that his cotton be ginned immediately, and if one gin could not do the job promptly he took his cotton to the next one. The truck had wiped out the problem of distance.

Gins Go Modern. While all of this was happening in the cotton field, the mechanical engineer was turning his attention to the cotton gin. A few years ago a gin stand could be operated almost by an illiterate, but those times are gone forever. Now the complicated, high-speed machinery virtually requires the services of a MIT graduate. It was inevitable that the combination of all of these factors should create difficulties which would take time and patience to eradicate.

The volume of complaints from the mills this year indicates that a considerable portion of the crop is reaching the gin in a much less than good condition, and that gin operators, in order to take care of their customers, are rushing their processing to an extreme degree. Mill men are complaining of gin temperatures which burn the life out of the fiber and of lint cleaners which beat it to death.

What Is the Cure? The $64 question, of course, is what to do about this rather complicated situation. Time was when gin operators had only a few thousand dollars invested in their gins, but today it is not unusual for the initial cost to run more than $200,000. This costly machinery is operated for only a few months out of the year and this time factor creates not only financial difficulties, but also a tremendous problem of securing and keeping trained personnel to operate the gin.

At first glance it would seem that these obstacles are almost insurmountable, but perhaps the answer lies in a better understanding between the farmer, the ginner, and the manufacturer. All three must realize and understand the problems of the other. The mill man must explain to the farmer that he will not pay top prices for leafy cotton, nor for cotton which has been mishandled at the gin, but, on the contrary, must explain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that premium lint will bring premium prices.

With the number of cotton-system spindles declining steadily each year, neither group can much longer delay the reaching of a complete understanding.

Cotton Bagging

Readers of this column will recall that on several occasions in the past we have commented upon the difficulty being experienced by mills with various types of bagging and netting which has been used around cotton bales. The standard covering, of course, is jute; but some ten or fifteen years ago it was decided that to cover cotton with jute was an ironical situation, and that cotton itself should be used. Cotton bagging is more expensive, however, and the decision was made that to encourage its use an allowance of seven pounds per bale would be given to the seller on each bale wrapped in cotton bagging.

At the time this action was taken it was contemplated that this cotton bagging should conform to certain standards, and Rule 37-A of "Southern Mill Rules" provided that it should conform "on a weight basis," to the present United States government standards for cotton bagging. There was a loophole, however, and it became apparent a number of years later when cotton began to reach the mills with all sorts of alleged cotton bagging around it and mills were required to pay the seven-pound allowance per bale.

Perhaps the most objectionable of these baggings was made from camouflage netting which presumably had been declared surplus by the Army. The colored threads from this netting got into the cotton and went through carding, spinning, and weaving and, as a result, what was intended to be the finest white broadcloth or lawn turned out to be about as variegated as the rainbow.

The loophole in the Rule seems to have been contained in the words "on a weight basis" because as long as the weight of this netting was close to the weight for legitimate cotton bagging the seller could claim that all of the requirements had been met. Now, however, this gap has been closed to a large extent by the fact that the Boards of Directors of the American Cotton Shippers Association, of the American Cotton Manufacturers Institute, and of one or two of the State Associations have approved an amendment to the Rule which spells out the particular government specification involved, and which makes it necessary for all cotton bagging, if it is to obtain the seven-pound allowance, to meet the rather rigid specifications spelled out therein.

As you will probably recall, in order to change "Southern Mill Rules," it is necessary for the American Cotton Shippers Association to approve the change, for the American Cotton Manufacturers Institute to approve it, and for each of the State Manufacturers Associations to approve it in Alabama, Georgia, North Carolina, and South Carolina.

While the formality of approval

(Continued on page 207)

Dec. 4—Annual meeting, Textile Engineering Div., **The American Society of Mechanical Engineers,** Hotel Statler, New York, N. Y.

1954

Jan. 25-28—Plant Maintenance & Engineering Show, International Amphitheater, Chicago, Ill.

Feb. 1-2—Annual meeting, **National Cotton Council of America,** Biltmore Hotel, Atlanta, Ga.

Feb. 4-6—Technical meeting, **Textile Div., American Society for Quality Control,** School of Textiles, N. C. State College, Raleigh, N. C.

Feb. 17-19—Fifth annual **Cotton Research Clinic,** sponsored by the National Cotton Council of America, Carolina Hotel, Pinehurst, N. C.

Feb. 25-27—Annual convention, **Phi Psi** national honorary textile fraternity, Carolina Hotel, Pinehurst, N. C.

Mar. 18-20—Annual meeting, **Alabama Cotton Manufacturers Association,** Hotel Buena Vista, Biloxi, Miss.

April 2—Spring meeting of **Carolinas Section, American Society for Quality Control,** Clemson (S. C.) College.

April 7-10—Annual convention, **Cotton Manufacturers Association of Georgia,** Boca Raton (Fla.) Hotel and Club.

April 22-24—Annual convention, **American Cotton Manufacturers Institute,** Jung Hotel, New Orleans, La.

April 26-30—American Textile Machinery Exhibition (sponsored by American Textile Machinery Association), Atlantic City (N. J.) Auditorium.

April 28—Lowell Technological Institute Alumni Meeting, Haddon Hall, Atlantic City, N. J.

May 5-6—Spring meeting of **The Fiber Society,** Institute of Textile Technology, Charlottesville, Va.

May 19-20—100th Anniversary Celebration of **The National Association of Cotton Manufacturers,** Somerset Hotel, Boston, Mass.

May 27-29—Annual convention, **South Carolina Textile Manufacturers Association,** The Cloister, Sea Island, Ga.

June 10-12—Annual meeting, **Southern Textile Association,** Ocean Forest Hotel, Myrtle Beach, S. C.

Sept. 9-12—Fourth **Canadian Textile Seminar,** Queen's University, Kingston, Ontario, Canada.

Sept. 13-14—Fall meeting of **The Fiber Society,** McGill University, Montreal, Canada, with The Textile Technical Federation of Canada and Canadian Association of Textile Colourists and Chemists cooperating as hosts.

Sept. 15-16—National convention, **American Association of Textile Chemists and Colorists,** Biltmore Hotel, Atlanta, Ga.

Oct. 4-9—18th **Southern Textile Exposition,** Textile Hall, Greenville, S. C.

Oct. 14-15—Annual meeting, **North Carolina Textile Manufacturers Association,** Carolina Hotel, Pinehurst, N. C.

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Box Fronts
Crank or Pitman Arms
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NORTHERN DIVISION
Danielson, Conn.

NEW Equipment AND MATERIALS

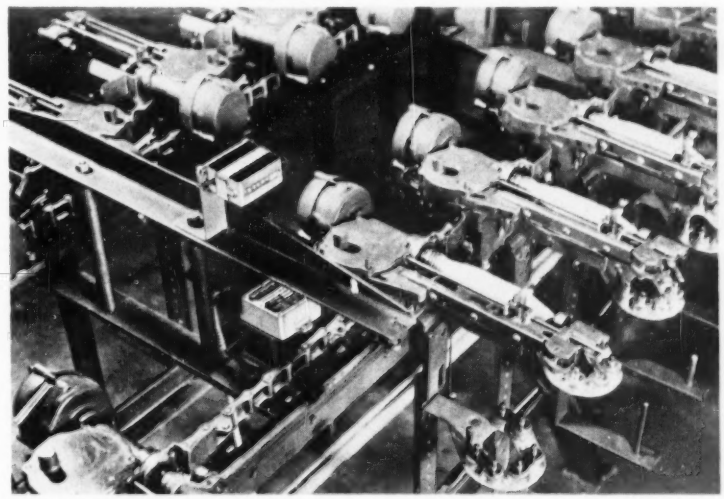
Electric Counter on Quiller Provides Accurate Count, Increased Production

Increased production on the Abbott quiller, by applying piece work rates, is now possible with the new Electric Productimeter, Model 6-Y-1-MF used in conjunction with the E-S-4-X Contactor.

The counter and contactor are installed as shown in the illustration. A fibre finger is mounted on the E-S-4-X contactor arm and is positioned between the motor brush holders and rails so that full quills only will actuate the contactor.

The quill which is making as it passes the contactor has the motor brushes riding on the contact rails. Thus the brush actuates the contactor finger to count one on the electric Productimeter. If the quiller unit is not operating, because of a break having occurred in the yarn, the brushes are up and this quill will pass without being counted.

This new Productimeter installation assures an accurate count of each full quill processed, makes for high efficiency of operation, and materially aids in cost reduction.



Piece work rates are utilized to pay operatives of this Abbott quiller which is equipped with a Durant Productimeter, as shown.

Durant Mfg. Co., 1973 North Buffum St., Milwaukee 1, Wis.

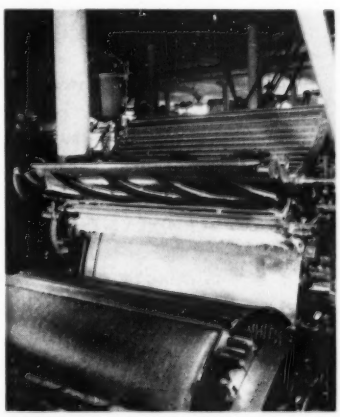
For additional data, request item L-110, using Handy Return Card on page 182.

Card Flat Brush Strips Simplify Maintenance

With Fullergript brush strips mounted on the cores of cotton card flat brushes, the brushes can be renewed when worn out without removing them from the machine.

These brush strips consist of fill material permanently set in long metal channels. When mounted on a card flat brush core, Fullergript strips replace the use of individual tufts embedded directly in the core.

Once cores are converted to hold brush strips, brushes can be replaced with only a screwdriver. Screws which hold the brush strip's metal backing are loosened and the worn strip lengths are slipped off the cylinder. New strips are then slid into place, the screws are tightened; and a fresh brushing surface is quickly in use.



Fullergript brush strips are installed on the card flat brush pictured here. Note metal channel winding around core.

Fuller Brush Co., Industrial Division, Hartford 2, Conn.

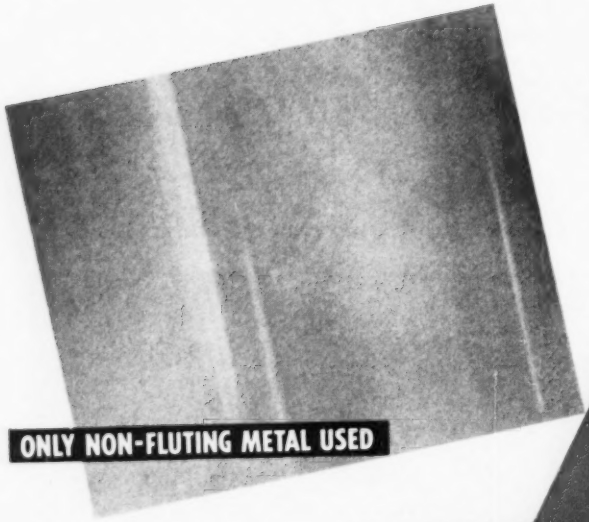
For additional data, request item L-106, using Handy Return Card on page 182.

Highly Crimped Vicara Can Be Processed in 100% Form

Highly crimped Vicara staple is now available both bleached and unbleached.

Heretofore, though Vicara has been given a mechanical crimp, it was not permanent. The new crimping process imparts considerably greater crimp to the fiber, and though it is

JENKINS QUALITY NOW AT Competitive prices!



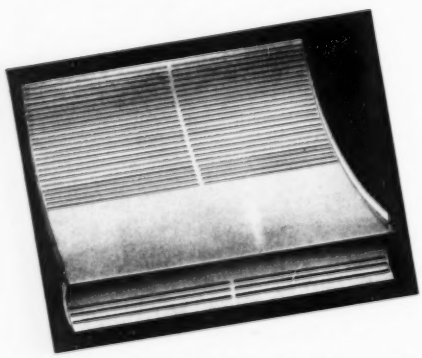
ONLY NON-FLUTING METAL USED

DIMENSIONALLY PERFECT

Unequaled know-how, modern equipment, and skilled craftsmen now bring you Jenkins higher quality Cylinders and Card Screens at competitive prices.

Jenkins Dynamically Balanced Cylinders and super-smooth, new grid-bar Card Screens are first in the industry—quieter, longer lasting, more efficient, backed by thirty-eight years of specialized engineering. Let Jenkins experts rebuild your old Cylinders and Card Screens to their high, precision standards.

Eliminate costly down time with highest quality at competitive prices. Contact Jenkins and save!



Made bar-type, perforated, or solid.

JENKINS METAL SHOPS, INC. • GASTONIA, NORTH CAROLINA

not claimed to be 100% permanent it does retain a marked degree of crimp throughout processing and into finished fabrics. This new crimp will greatly facilitate the processing of Vicara in 100% form as well as in blends with other fibers, and will impart added loft and bulk to finished fabrics.

Virginia-Carolina Chemical Corp., 500 Fifth Ave., New York, N. Y.

For additional data, request item L-103, using Handy Return Card on page 182.

NEW Equipment AND MATERIALS

Yarn Transferred from Shipping Tube to Dye Spring without Winding

A new method of yarn transfer utilizes a patented machine which transfers mill-wound yarn packages from shipping tube to dyeing spring, without winding, at a rate between 3000 and 4000 pounds a day, regardless of yarn size. Operation of the machine requires only one unskilled operator.

Although the machine occupies only about six square feet of floor space, the manufacturer states that "a single installation will replace about 400 spindles of high-speed spring-winding equipment, the skilled operators required to operate winding machinery, and all supervisory personnel."

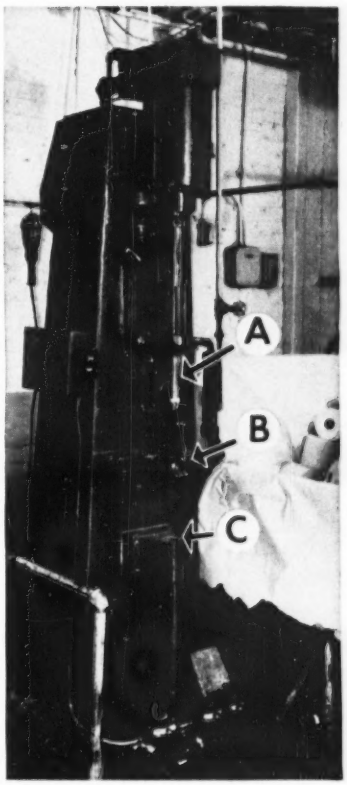
Tests (based upon more than 10 million pounds of yarn of all sizes) prove that use of the new machine can save up to 93% of yarn winding costs. Because the operating parts of the machine never touch the yarn itself, there is seldom, if ever, yarn breakage. In this manner, the new machine contributes to higher yarn quality, in addition to the economies of operation.

The machine itself is an easily-operated, trouble-free unit operated by an electrically controlled pneumatic system. Basically, the machine's operation reduces the diameter of the dyeing spring to permit insertion into the yarn package; simultaneously, with the insertion of the spring, the mill-wound shipping tube is removed, without damage to the tube itself.

By a different arrangement of the machine's operating spindles, and by substituting a shipping tube for the spring after dyeing, the reverse process may be accomplished. This factor makes possible reshipment of dyed yarns without rewinding. This reverse operation, too, suggests valuable possibilities in the processing of synthetic, combination or high-twist yarns. Immediately after dyeing, substitution of a tube slightly smaller than the dyeing spring is easily accomplished. This change relieves any tension developed during drying; those fibers which have a tendency to shrink or harshen under heat retain their feel, strength, and elasticity.

Yarn Transfer Devices, 2033 W. Charleston St., Chicago 47, Ill.

For additional data, request item L-115, using Handy Return Card on page 182.



Operating installation of the new yarn transfer equipment designed to replace spring winding. Key to letters on photo: A, spring contacting spindle; B, package support bracket; C, package positioning shaft and advance mechanism. (Yarn Transfer Devices.)

Improvements for Existing Johnson Slashers

A pneumatic quetsch control system for Johnson slashers is available to replace the manually operated mechanical quetsch controls. With this system, the quetsch rolls are set at both ends precisely by a single adjustment. There is automatic compensation for variations in thickness of the ends. If it is desired to lift the roll for any reason, it can be done with a flip of a lever. Running adjustments to vary the load can be made without slowing or halting the machine. There is no bouncing of rolls, regardless of speed.

Advantages shown in operation are considerable: Uniformity of moisture extraction is assured, and there are no wet streaks, making for even drying. Roll coverings wear less and last longer. Loading degree is accurately reproducible.

The control panel may be mounted wherever it is most convenient, and the entire system is easy to install and maintain.

In collaboration with the Reliance Electric and Engineering Co., a system of rheostat control has been worked out by which sudden stopping and starting of Johnson sizers can be eliminated. Time is given after the control switch is thrown for smooth acceleration or deceleration, at fixed rates, and complete flexibility through all phases of an operation or process. This control is essential in the sizing of fine warps.

Charles B. Johnson Machine Works, Paterson, N. J.

For additional data, request item L-108, using Handy Return Card on page 182.

3-Delivery Gill Reducer for Worsted Drawing

A new three-delivery, single-head Gill Reducer manufactured by the Holdsworth Gill Screw Co., opens the bottleneck at the intermediate drawing operation. Production flows

(Continued on page 197)

IN THIS CORNER . . . A Champion in top condition ready for the battle — the battle that every needle meets on today's high-speed knitting machines. Faster production demands quality needles that keep their strength, resiliency and temper day after day. Special steel formulas, plus years of experience, plus thorough testing assure Textile quality.

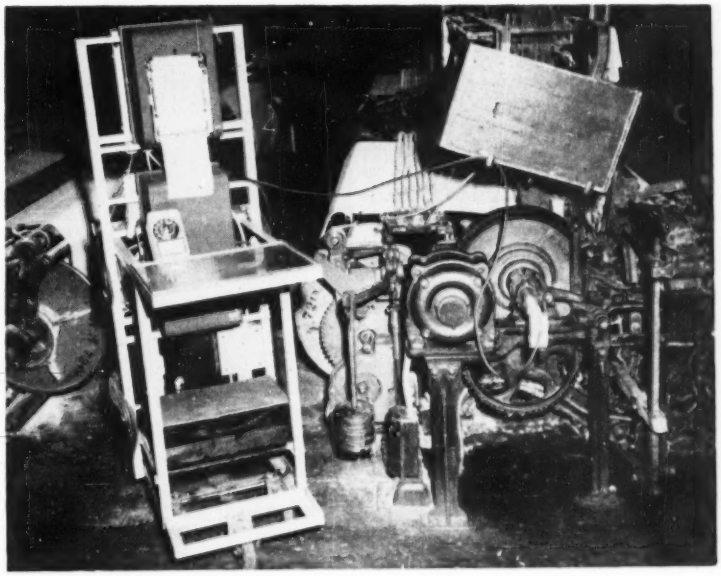
Slip a Textile Needle out of its special package — in that gleaming, polished bit of metal lies help for you toward fine, smooth fabrics — knitting that pays off in quality fabrics with definite sales appeal.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

Arrow LATCH NEEDLES



PORTABLE CENTRALOGRAPH in action in the weave room of Pacific's Lawrence mill. The silent consultant has been wheeled up to a C & K loom for a production study of a new style, still in the trial stage. A suitable code for stoppages pertaining to this type of operation has been worked out for the dial reporter, and the machine contact has been hooked up to the loom's crankshaft. Now data will be automatically accumulated so that wages, efficiency, costing, planning, and many other product statistics can be figured for a projected large run . . . without a detailed time and motion study.

Staff Prepared
EXCLUSIVE

Pacific Mills have a

Silent Research Consultant

THE LEVEL OF EFFICIENCY at which a textile mill operates is a determinant of a mill's ability to meet competition. In the processing of converting capital and labor into yarn and cloth, each investment should be bolstered by a decent return. Recognizing this, Pacific Mills studies the idiosyncrasies of every new machine before it is placed in regular production so that all the kinks may be worked out and maximum utilization is achieved. A mobile automatic time recorder is used in such investigations. With humanlike effort, the recorder functions as a silent research consultant — compiling sought-after data and rationalizing it.

Mechanically collected information is used for —

- Timestudies
- Wage incentives
- Quality control
- Supervising and increasing efficiency
- Planning and costing
- Machine development

PRODUCTION VOLUME and cost largely depend on how effectively textile equipment is put to use in the mill. Minor alterations to the machine, or to the organization of machinery, or to the physical or chemical process often achieve major strides in the direction of efficiency. In order to make such alterations, the mill superintendent is compelled to keep the entire operation under closest surveillance.

Are those new twisters being utilized correctly? How much lost time is piling up at the converters because of inexperienced help? What's the setting-up time, doffing and creeling time, production time, and cleaning time for those long draft spinners? How much time is being lost due to changeover to this new blend? What are the best settings on the pin drafters for high, uniform output roving? These questions and countless others must be answered before

Here's How It Works—

An electric impulse contact is mounted on the machine that has been selected for study. The nature of contact depends upon whether the principle motion involved is reciprocal or rotating. Sometimes it is more convenient to tie in the recorder with the operating motor in instances where the motor is directly coupled to the machine without an intervening clutch.

For this purpose, Pacific's portable recorder is furnished with a motor-driven as well as a mechanically driven interrupter. As long as the machine is in operation, the contacts transmit electrical impulses to the recorder. These are registered as a solid vertical line by means of magnetically operated printers through an ink ribbon on a continuously moving chart.

When the machine stops for some reason the printer stops, and a gap appears in the time line. When this occurs, the technician dials a prearranged code number designating the cause of the stoppage on a telephone type ten-digit dial. The resulting electrical impulse activates a digit drum which rotates until the desired numeral is in printing position and then prints it through the ink ribbon so that it appears on the chart alongside the corresponding gap.

The chart is continuously driven past the printing mechanism and out of the instrument by a constant speed motor. A drive gear may be regulated for different rates of paper travel, usually from 30 to 60 millimeters per hour. Since the chart is overprinted with a time scale, the Centralograph will thus register the effective working time of the machine and the out of action time for each stoppage.

SG-1 SPINNING FRAME under study in Pacific Mill's experimental engineering laboratory. Doris Lagasse, laboratory technician, has wheeled portable Centralograph up to frame. On the occurrence of a stoppage Miss Lagasse dials a code number on a dial telephone type report transmitter fastened to the work bench. The number is electrically transmitted to the recorder where it is stamped alongside the corresponding time lapse indicated on the Centralogram chart. She won't make an error in dialing either because the finger dial is equipped with an index which marks the most recent stoppage. After sufficient data is accumulated, a pattern begins to show — pointing the way to improvement.

anyone can determine whether a full rated performance is being turned in.

By thoroughly analyzing production methods, information may be gathered which will indicate the degree of efficiency that can be reached and maintained. Then a perpetual check is required to prevent deviations from calculated efficiency. Although wage statistics are useful to some degree, they are influenced by factors which have little to do with efficiency. Neither do production statistics give a clear picture of what really happens at the machines. They won't reveal what parts of the machine are subjected to the highest rate of mechanical failure, or how many ends down on the loom a certain style is causing, or how long a machine is inoperative because of a production surplus piled up in advance of some subsequent machine.

More often than not, the amount of record keeping necessary to establish rises and falls of efficiency is so time consuming and confusing that the control is hardly worth the effort. Time and motion studies which tie up expensive skills also require copious amounts of records.

A clear picture of the working of each machine can be obtained by tracing on a piece of paper, continuously around the clock, a line indicating when each machine is in action. Interruptions in the line would tell when the machine was at a standstill. If the reason for each stop were noted, management would have the means for controlling efficiency — provided such a diagram were made every day.

The Centralograph, an instrument for recording machine time, draws up such a diagram automatically. It provides an indisputable account of performance that serves as a foundation for objective discussions between supervisors and operatives and enables the making of proper decisions. The data gathered by the Centralograph can be collected and classified according to any number of mill devised controls.

For this reason it has found its way into a number of mills that place prime emphasis on rational operational procedure. All lost time is accounted for, the information is complete, and it is organized. As a result, the time recorder has led the way towards increased production and reduced costs.

Useful in Research. Pacific Mills has exploited the Centralograph even further. At their Lawrence division, engineers converted the Centralograph into an infallible efficiency expert on wheels that will keep tabs on equipment as it is conceived in the laboratory.

TECHNICIAN EXAMINES CENTRALOGRAM chart reporting a short experimental run of Pacific's SG-1 spinning frame. Because stoppages are recorded automatically, they are reliable. Machine stops are clearly indicated in the form of an interruption in the solid time bar which is continuously imprinted while the machine is producing. The code numbers give first hand information as to the reason for stoppages. Miss Lagasse has at her finger tips sufficient data to indicate where corrections will be necessary, points which require further development, and perhaps a clue of vital importance to make the machine "click." Pacific's portable Centralograph has enabled the mill to judiciously invest capital in machinery by first assuring in the laboratory that the investment is a paying proposition.

on new equipment purchases, and machinery finally installed on the mill floor while in full production.

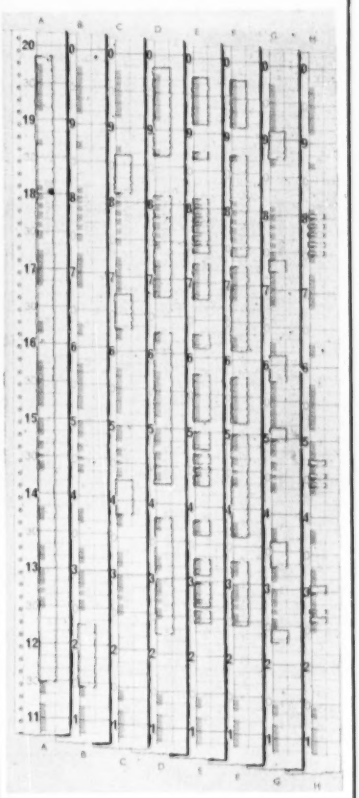
In order to make this important data collecting unit available to all parts of the plant, every component of the Centralograph system as well as necessary additions is compactly assembled on a specially designed carriage. The carriage is large enough to house more than 20 major components of the recorder and small enough to fit into tight mill aisles.

As each piece of textile machinery is developed by Pacific's experimental engineering group, the prototype is subjected to a full character analysis. Sometimes the data will reveal just the right changes needed to make the new machine click. The same treatment is accorded new machine purchases. Operational peculiarities are fully determined before the unit takes its place in the production line-up. The machine is given its seal of approval in the laboratory before it can create a problem in the mill. As Robert Wilkie, director of research, says of the portable time recorder: "Now we can take action where and when necessary."

Here for example are some of the facets of production which may be established in the laboratory by the recorder:

(1) Location of trouble spots by frequency and nature of stoppages.
(2) Effect of modifications on machine efficiency.
(3) Optimum adjustments, speeds, settings, tensions, twists, drafts, weights.
(4) Handling and utilization to achieve highest percentage machine working time.
(5) Scope and limitations of machine with respect to labor.
(6) Scope and limitation of machine with respect to material processed.
(7) Proper maintenance procedures, lubrication, cleaning, servicing.
(8) Best work loads.
(9) Comparisons with earlier production of the same style.
(10) Time data: setting up, material feeding, number and causes of short stops, time machine in operation, effective production time, production time for a batch, number

(Continued on next page)



THESE EIGHT DIAGRAMS are copies of the same operational record. The strips demonstrate how eight important "character traits" of a recently acquired machine are revealed in a laboratory study using the Centralograph. A rapid analysis of the strip points the way towards more effective employment of the machine in the mill even before it is installed in its permanent site and in regular production.

Indicated by brackets are:

Strip A—Total time on production for a batch.

Strip B—Setting-up time.

Strip C—Time lost for different reasons.

Strip D—Effective production time.

Strip E—Machine time.

Strip F—Number of working cycles.

Strip G—Material feeding time.

Strip H—Number of short stops.

CODE:

1 Reserved for special investigations.
2 Adjusting
3 Feeding of material.
4 Change of jog.
5 Lubricating.
6 Cleaning
7 Machine fault.
8 Waiting for material.
9 Material fault.
10 No operator available.

of working cycles per shift.

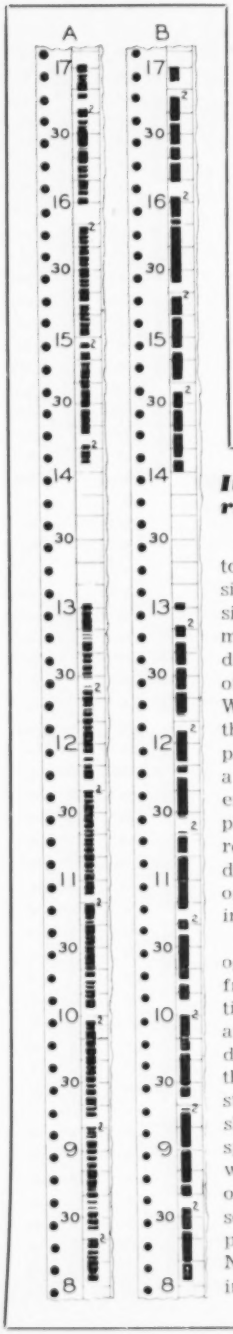
Similarly, the effect of a yarn, a new style, a change in blend, a change in staple length or fineness, a change in a preceding operation, a chemical modification, or a physical modification among others can be pin pointed by Pacific's portable time recorder. The Centralograph diagrams show the status of a problem as well as the effect of improvements, thereby serving as an incentive to further improvement.

All this effort materializes as improved quality and higher production at lower cost. The more detailed the different data are, the greater the potentials of reaching conclusions as to how and when savings can be made.

It is possible to extract an enormous amount of information from the recorder's graph. For the sake of simplicity and convenience, Pacific isolates data which is considered to have the most profound influence in a particular study. This is made up into a code for the dial reporter. A typical code for the 10 digit dial may be:

(1) Change of bobbins.
(2) Doffing time.
(3) Stop for adjustments.
(4) Change of material.
(5) Cleaning up.
(6) Machine repairs.
(7) Broken ends.
(8) Lack of material.
(9) Temporary investigation.
(10) Setting up.

The fault reasons sometimes may not be obtained directly from the graph but undue repetitions of a single code number will sound the alarm that something is amiss which requires investigation.

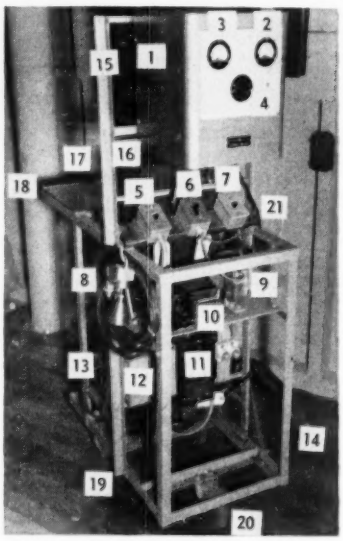


It's a matter of record that . . .

The laboratory is now able to determine the best speeds, tensions, settings, drafts, twists, and similar critical factors of yarn manufacture from graphs produced under the unfailing scrutiny of the portable Centralograph. Weak points are quickly spotted, the nature and frequency of stoppages show up dominantly, and a clear summary of the entire operation is depicted. Furnished with plenty of accurate data from these records, the laboratory finds no difficulty in modifying the process or machine to remedy shortcomings.

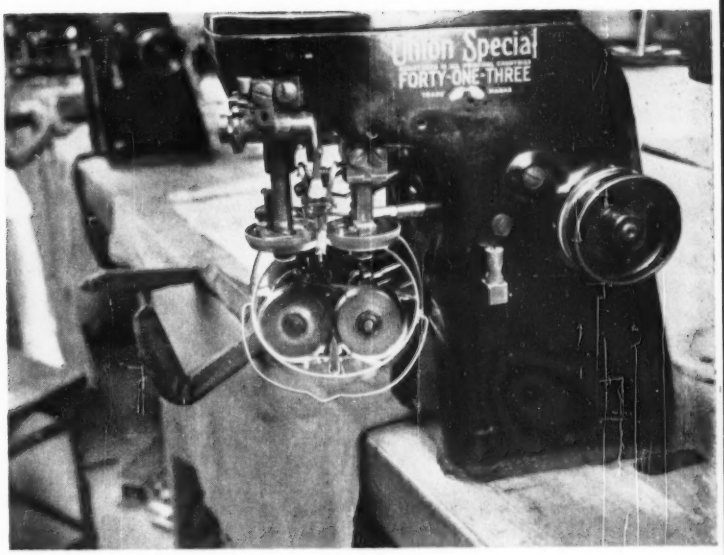
Here, for example, is a Centralograph study of a slubber. The frequent interruptions in the vertical "time" bar of Diagram A are due to an epidemic of ends down. Investigation proved that the stock in process was below standard in evenness. Diagram B shows that after lowering the speed, the number of broken ends was reduced to 32 while the actual output increased from 9.7 to 11.0 sets. Thus, the inferior stock was processed at reasonable efficiency. Numeral 2 is the code for "doffing time."

How Pacific's Recorder was mobilized . . .



(1) Transformer and rectifier group for charging battery (2) voltmeter for 24-volt Centralograph circuit (print and digit magnets, tape feed, paper feed) (3) ammeter (4) voltage regulator (5) on-off switch for motor driven interrupter (6) selector switch for motor driven—machine contact interrupter (7) on-off switch for rectifier and transformer a-c current supply (8) machine contact and interrupter (9) motor driven interrupter (10) 110-volt motor for motor driven interrupter (11) 550-110 volt step-down transformer for motor driven interrupter (12) fuse box (13) 24-volt nickel-cadmium battery for Centralograph circuits (14) heavy duty cable for connecting 550-110 volt transformer to terminals of motor on machine being investigated (15) Centralograph recorder (rear) (16) interrupter condenser (rear) (17) dial (not visible) and report transmitter (18) work table (19) rigid welded and bolted angle iron frame (20) set of four rubber-tired casters (21) power cable

Seamer Adjustment Simplified



"I use a magnifying shaving mirror, purchased from a local drug store, to aid in setting hosiery seamer uncurlers."

By S. H. Boyer
Wisteria Hosiery Mills

EXCLUSIVE

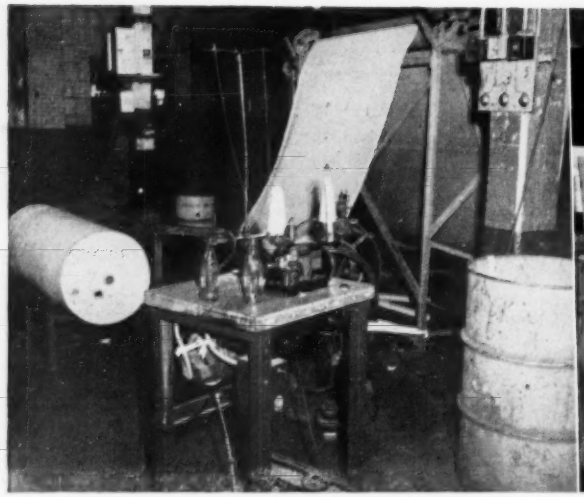
SETTING hosiery seamer uncurlers has become more complicated since the advent of "loopless toe hosiery." Loopless toe stockings go directly to the seamer without the intermediate looping operation.

A trouble experienced by many seamer fixers is getting the precise adjustment of the fabric uncurler so the stocking will be carried farther into the feed-cups for automatic starting of feed. This is necessary in order to eliminate the need of any assistance by the operator in starting the stocking to feed, otherwise, results include drop-outs and pleats in the toe.

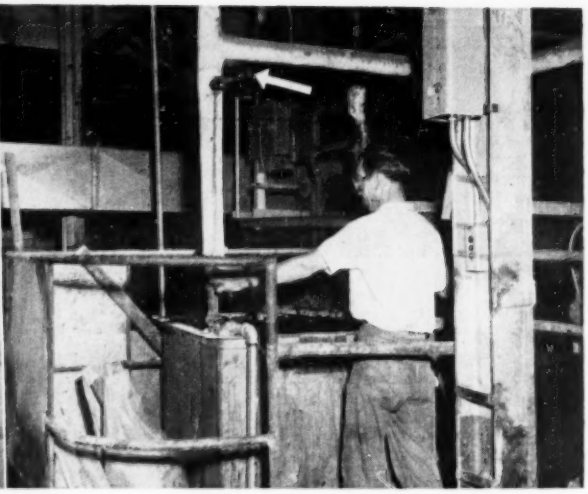
The uncurler must be adjusted so that the front prong or prongs are exactly in the center of the opening between feed-cups. These prongs must have approximately four-thousandths of an inch clearance on either side to prevent cuts, mismatches, and excessive wear. The adjusting screws to move the uncurler are located near the top of machine. The only position in which one can be certain of uncurler adjustment is by stooping to an awkward position and looking upward underneath the feed-cups.

To solve this problem, I purchased a magnifying shaving mirror from a local drug store. It has an adjustable handle which I hook over top of the feed-cups, underneath the puller-plate. I then adjust the mirror so that an exact picture of the relation between the uncurler and feed-cups is reproduced in the mirror. Both of my hands are then free to make the exact adjustment while sitting comfortably in the seamer's chair. I know when the setting is correct without getting in an awkward position, which would cause the seamer operator to lose production waiting for her machine to be adjusted. This kink can be adapted for use in the maintenance of many other kinds of machinery that have inaccessible adjustments.

The accompanying illustration shows the mirror in place on the machine. The feed-cups are reproduced very clearly in the mirror, and the fabric uncurler can be seen centered between the feed-cups and at the bottom of the circular mirror. The reflection is so clear in the illustration that it appears to be a part of the machine, but all parts shown within the circle are but a reflection of the machine parts shown above it.



BOTTLES not in proper container cost offending department 2 demerits when found by Plant Safety Committee.



EMERGENCY VALVE (arrow) permits operator to shut off steam immediately if sizing boils over. Note goggles.

Decreased Accident Rate

measures success of finishing plant's expanded safety program

Staff Prepared

EXCLUSIVE

SAFE working conditions for employees is not a new idea at Hanes Dye and Finishing Co., Winston-Salem, N. C.—the company has twice won awards from the N. C. State and U. S. Departments of Labor for safety records substantially better than the average for its industry. However, since management would not be satisfied until the number of accidents was reduced to as near zero as possible, a concerted effort was started in January, 1953, to better the already outstanding records which had been made in previous years.

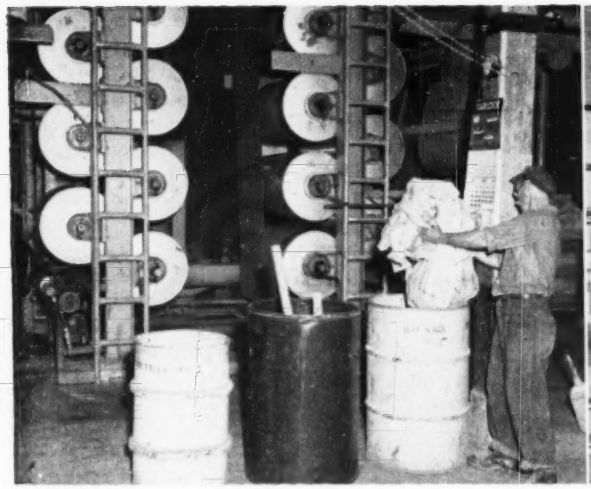
Under the supervision of S. Paul Meadows, Hanes' personnel director, plans for an expanded safety program were mapped out and were put into operation on January 1, 1953. Since plant housekeeping and cleanliness go hand-in-hand with safety, particular emphasis was placed on proper storage of materials and equipment, clean floors and other work areas, and proper disposal of trash and waste.

A plant safety committee, which was formed in March, 1949, has the primary responsibility for safety inspections of the plant and for making safety recommendations to supervisors and company officers. Other company groups are giving increased attention to safety problems. The already-existing safety suggestion system for employees was expanded by giving increased awards for accepted suggestions.

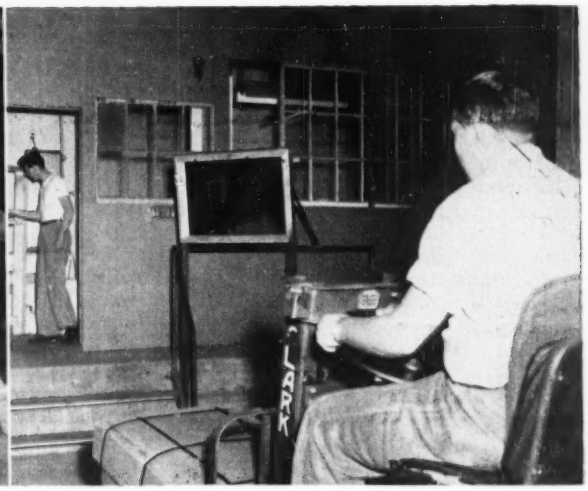
Classes in first aid have been given at the plant for about two years. A plan is soon to be put into operation to utilize personnel trained in these classes to give expert, on-the-spot first aid when accidents occur anywhere in the plant.

Plant Safety Committee. The basic working group in Hanes' safety program is the Plant Safety Committee, which includes four members. Permanent members are plant superintendent, Paul Wood; maintenance foreman, George Wright; and assistant personnel director, Alvin Disher. Each plant foreman serves in turn as the fourth member of the committee.

Once a month the committee makes a thorough inspection of housekeeping and safety conditions throughout the plant. Inspections are unannounced, and are not made on a fixed date. The inspection is based primarily on a demerit system, which penalizes a department for unsafe or poor housekeeping practices found within it (see box on page 96). Demerits may also be given other than at regular inspection times, whenever a committee member spots instances of unsafe practices.



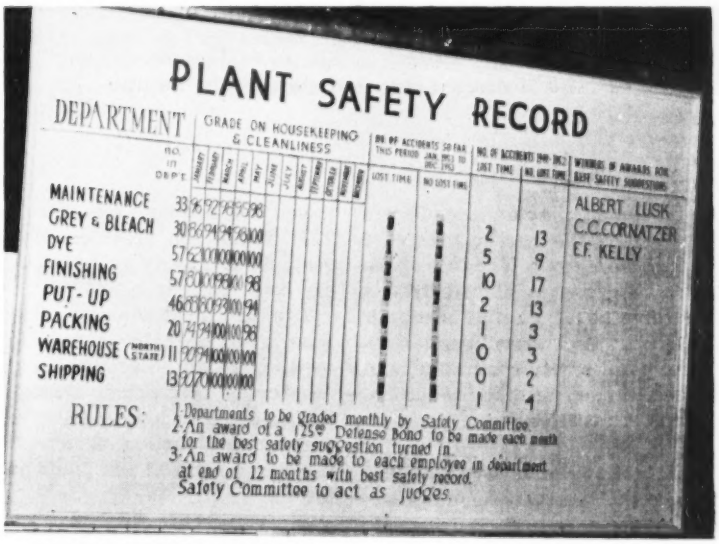
SEPARATE CONTAINERS are provided for bottles, trash, dry rags, and wet rags (first three shown here).



MIRROR in warehouse lets operator of fork lift truck see another truck approaching around corner.

Each department is assumed to start with a point score of 100, from which is deducted the number of demerits assessed by the inspectors. Departments are then rated A, B, or C, as determined by their point score. A copy of the committee's report goes to the plant superintendent, and each department superintendent receives a report on his department. All point scores are posted on a bulletin board in a prominent part of the plant.

At the end of the year, an award is made to each employee in the department with the best safety record for the preceding 12 months. Typical awards are cameras, cigarette lighters, and clocks. One of each of these is permanently displayed under the safety bulletin board. Awards are based on the departments' grades for the year in housekeeping and safety, number of days lost because of accidents, and other safety factors. In making their decision as to the best department, the judges take into consideration the hazards inherently present in each department; obviously, more accidents must be expected in some departments than in others.


PLANT SAFETY RECORD
DEPARTMENT
GRADE ON HOUSEKEEPING & CLEANLINESS
NO. OF ACCIDENTS SO FAR THIS PERIOD
NO. OF ACCIDENTS (AND INJ.) JAN. (INJ.) TO DEC. (INJ.)
WINNERS OF AWARDS FOR BEST SAFETY SUGGESTIONS
LOST TIME
NO LOST TIME
MAINTENANCE
GREY & BLEACH
DYE
FINISHING
PUT-UP
PACKING
WAREHOUSE (NORTH) (STATE)
SHIPPING
ALBERT LUSK
C.C.CORNATZER
E.F. KELLY
RULES
1. Departments to be graded monthly by Safety Committee.
2. An award of a 125¢ Defense Bond to be made each month for the best safety suggestion turned in.
3. An award to be made to each employee in department at end of 12 months with best safety record.
Safety Committee to act as judges.

PLANT SAFETY RECORD is prominently displayed on a big signboard.

Supervisory Council. The supervisory council at Hanes Dye and Finishing Co. is composed of all departmental superintendents, foremen, and assistant foremen. Its purpose is to "promote complete understanding among all departments and to welcome and study all ideas advanced for betterment of plant conditions and more efficient operation." It is operated according to the McCormick Plan for junior executives.

The council has a safety committee to which all employees' safety suggestions are referred. At a monthly dinner meeting, the council considers the safety suggestions recommended by its safety committee. Accepted suggestions are given a cash award on approval of the company officers, and each month the council awards a $25 defense bond for the best suggestion submitted during that month (details on page 96).

Key Man Group. All supervisors, the two plant superintendents,

Need for New Standard Tests Increasing, Says AATCC's Bonnar

The research program of the American Association of Textile Chemists and Colorists, which has grown slowly but continuously during the more than 30 years that have elapsed since it was started, has reached such proportions that it was deemed advisable to publish a booklet indicating its scope, its organization, how it is financed.

Entitled "AATCC Research in Action," the brochure contains a foreword by Dr. H. W. Stiegler, AATCC director of research, in which he emphasized that the primary purpose of the program is the development of standard test methods. "It is this particular branch of the Association's activities that is supported mainly by corporate membership funds," Dr. Stiegler said.

As of August 1953, AATCC had established 74 standard test methods covering most of the textile testing needs of the wet processing trades.

"With the advancing technology of the textile industry there is increasing need for new tests and for refinement of established procedures, particularly for evaluation of end use properties," J. Robert Bonnar, president of AATCC, pointed out. Increasing application of quality control measures has created a wholly new need for tests which can be performed in a matter of a few minutes, he said.

Development of these "rapid control" tests, in addition to the already greatly expanded research program, has created new demands for the Association's laboratory services, which will require an increase in corporate membership income, according to Mr. Bonnar.

the personnel director, and officers of the company are members of the key man group. The role of the key man group in plant safety is to receive at its monthly meetings the report and recommendations of the plant safety committee, and to assist in seeing that recommendations are carried out.

Safety Suggestion System. Employees at Hanes Dye and Finishing Co. are encouraged to promote safety throughout the plant by a system which rewards worth-while safety suggestions. A supply of the forms is provided at convenient locations in the plant, with a box in which to deposit them.

Completed suggestion forms are referred to the safety committee of the supervisory council (as previously outlined) for determination of their suitability, and later for the council to determine the monthly defense bond winner.

Acknowledgment of receipt of suggestions is made immediately, and the suggestions are accepted or rejected within 30 days. Suggestion blanks are numbered, with a receipt attached, so that employees may remain anonymous until their suggestions are accepted. The reason for rejection of suggestions is given, by number, on the plant bulletin board.

Typical bond-winning suggestions have been for a method of securing balance weights on pads to prevent them from flying off, for a new gear cover on a dye jig, and for construction of steps from the lower level of the plant parking lot.

First Aid Classes. In January, 1953, Hanes initiated a series of three-hour first aid classes for all employees desiring to take them, although attendance is not compulsory. Classes are given by Carlis Fulk, a graduate of the Red Cross first aid course for instructors. Each week classes are held an hour a day, on company time, until the three-hour course is completed. The course is given as often as 15 to 20 employees sign up for it.

Graduates of the three-hour course may take an 18-hour advanced course, which is given once a year. Classes are held in the evening, on the employees' own time. The course includes indoctrination in civil defense in case of enemy attack. Since the 18-hour course was first offered in January, 1951, 28 people now on the payroll have taken it.

It is planned in the near future to have a graduate of the advanced first aid course working in each of three strategic locations in the plant. Each will have a complete emergency first aid kit checked out to him, and will go immediately to the scene when an accident occurs in the area for which he is responsible. The injured person will thus receive expert care without delay, and will not be moved except under the direction of competent authority.

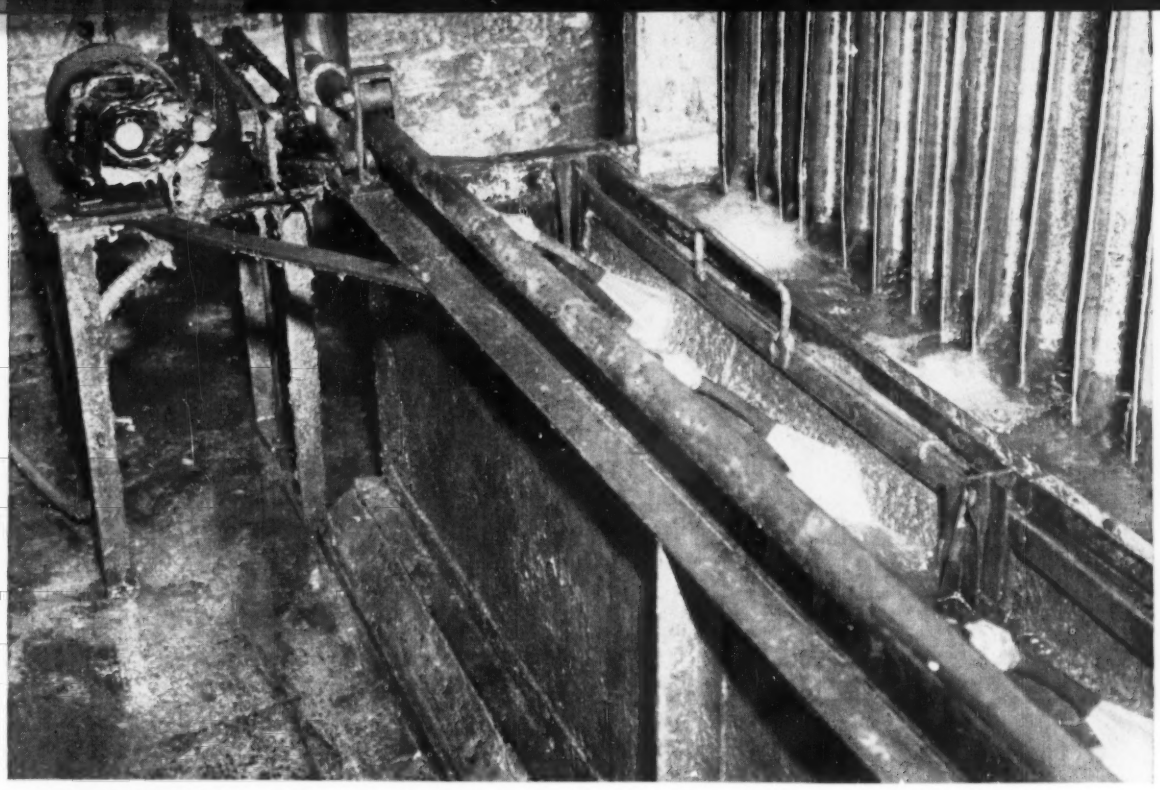
Results. Although the expanded Plant Safety and Housekeeping Program has only been in operation since the beginning of 1953, good results are already apparent. A substantial decrease has been made over the same period last year in lost-time accidents per million man hours, the best measuring stick of plant safety conditions.

When the plant safety committee made its first inspection, several departments had unacceptably low scores. All of these have scored well over 90 on the last three inspections. The department with the lowest score on the first inspection effected such an improvement that it has had a perfect rating on every subsequent inspection.

With hard work, constant attention to detail, and a carefully planned program, the Hanes Dye and Finishing Co. has reached a standard in plant safety and housekeeping second to none in the textile industry.

RATING SYSTEM USED IN PLANT SAFETY INSPECTIONS AT HANES DYE AND FINISHING CO.

	Demerits
Broken bottles anywhere	5
Protruding nails anywhere	5
Fire hazards	5
Improper storage of supplies and equipment	4
Improper or unsafe cloth storage	4
Unsafe practices	3
Bottles not in proper container	2
Pipe and metal pieces out of place	2
Rags not in proper container	2
Oily or slick floors	2
Improper use of container	2



SPRAY NOZZLES keep screen washed clean by reciprocating on rolls mounted at each end of feed pipe which is moved back and forth by electric motor drive.

Air Conditioning

How Riegel Textile at Trion

Cut Filter Screen Cleaning Time

Staff Prepared
EXCLUSIVE

A MODIFIED WASHER in the Carrier air conditioning unit (washed air) serving weaving and spinning at Riegel Textile Corp., Trion, Ga., keeps the return-water filter screens clean and saves money and labor usually required for servicing the units. The only change made on the equipment was the installation of a reciprocating motion for pipe and spray heads held in position to wash lint from the water filter screen (see accompanying photos).

The air conditioner's washed air apparatus recirculates the same water through the system several times, and lint accumulates on the filter screen, thereby requiring manual cleaning of the lint-laden screens about three times in eight hours. The new system of spray wash has reduced the manual cleaning frequency to once each week. The accompanying illustrations show how the modification operates to clean the screens.

A similar apparatus is available from Carrier Corp.; however, this unit was made in the mill shop and installed in the conditioning room, because the air conditioning equipment did not come originally equipped with the spray heads to clean the filter screens.

FEED END of spray feed pipe is connected to water return line by flexible hose to accommodate the reciprocating motion.

You have several alternatives when maintaining*:

Roofs	**Painting**
Porch Floors	**Plumbing**
Interior Floors	**Wiring**
Masonry	**Termite Control**

**Emphasis on village buildings.*

Maintenance of Buildings---

You can do this or that, but get your facts first.

*Staff Prepared***

EXCLUSIVE

THE UPKEEP or maintenance of mill buildings, which include village homes, civic buildings, warehouses, and numerous other structures essential to the operation of a textile plant, is definitely an expense in the cost of doing business — that is, if the mill expects to continue to do business.

This maintenance of buildings is often neglected in hard times, but whether the expense shows up annually or after several years, it is still there. And when permitted to accumulate instead of being taken care of on a systematic schedule, the expense is greater.

In other words, you will pay for building maintenance whether you have it or not, but you won't pay as much if you (1) know what must be done and when, and (2) get the work performed and charge it off on a systematic basis.

Survey Gives the Facts. Some of the consumer magazines have estimated that it costs 140% to renovate an old dwelling or building, as compared to 100% for the erection of a new one. That may be true, but from an engineering point of view the mill management requires a more specific estimate before starting a renovation or maintenance project. A survey of existing conditions is the only way to secure an accurate estimate. When the total estimate has been compiled and recommendations have been made to management, it is then up to management to decide how the expenditures will be allocated and over what time basis.

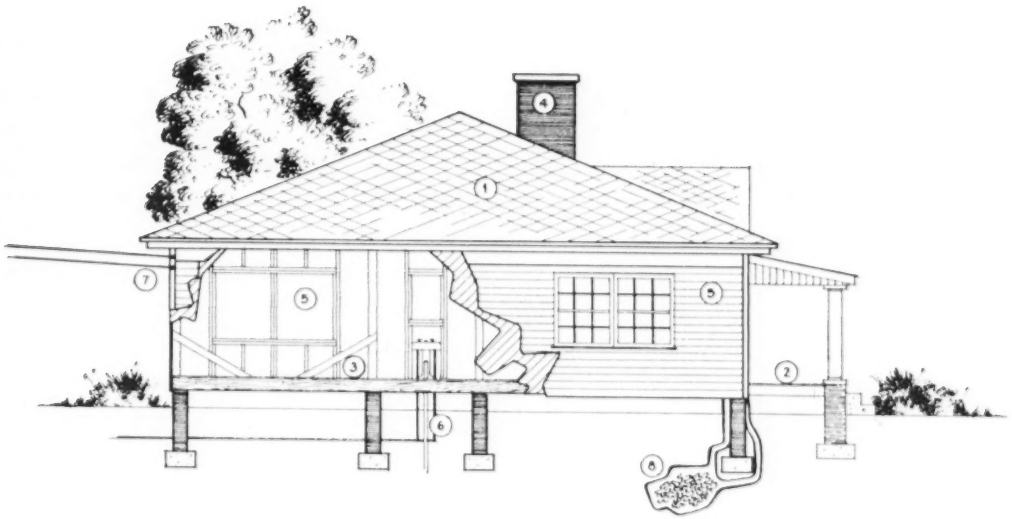
Management may prefer to "get everything in shape" at once to take advantage of the tax situation, or it may prefer to spread the work over a three or five-year period, remedying immediately only those items that are essential to operations. Whichever system is employed at the start of the program, management usually then places the building maintenance on a regular schedule.

In the following paragraphs, some of the factors that may be reported to management after an inspection of mill properties are given, with brief comments. In many instances they apply to village dwellings, but some of the principles also are applicable to other mill structures.

Roofing. If the engineering survey indicates the need for roofing repair or replacement, the existing types of roofs may be described, and then the possibilities listed which are open to management for correction. For instance, several kinds of roofs are practical for dwellings and similar buildings: roll roofing, composition or asbestos.

Roll roofing has an estimated life of five years, but costs much less than composition shingles which will last much longer. A composi-

**Much of the information contained in this article was secured from the textile department, Robert & Company Associates, architects and engineers, Atlanta, Ga.



1. Roofing. If engineering survey shows replacement to be necessary, management needs all facts so as to make an intelligent decision between roll, composition, and asbestos types.

2. Porch Floor. Unless adequately protected by frequent painting and splash guards, such as gutters, wooden porches can cause maintenance costs to soar.

3. Interior Floor. A major reason for deterioration of interior floors is over-abundance of water in mopping. Occupants should be educated in proper mopping procedure.

4. Masonry and Chimneys. Pointing-up is not an expensive item, but an essential one to keep maintenance costs low.

5. Painting Interior and Exterior. Cost of putting on average wall paper and cost of painting are approximately the same. However, if paint is decided upon, oil paint is preferable. Exteriors of frame buildings must be protected by paint at all times or else a major repair job will be necessary.

6. Plumbing. If plumbing equipment has almost served its useful life, consideration may be given by management to renovation of the entire system, with a certain portion being replaced each year.

7. Electrical Wiring. Overloading of old circuits is a common practice in mill villages. With modern wiring the installation of cheap and dangerous wiring by occupants is eliminated.

8. Termites. No method of termite control is satisfactory unless it is performed systematically. When fuel or debris is under the building, the job is even more difficult.

tion roof may last from 10 to 15 years, and an asbestos roof may be good for 50 to 60 years.

Irrespective of which type of roofing management chooses, the facts are presented so that the decision can be made.

Porch Floors. Unless adequately protected by frequent painting and splash protection, such as gutters, wooden porches on dwellings and wooden entrances to other buildings can cause maintenance costs to soar. The porch repair or entire replacement can be figured for two types of wood as follows: ¾″ flat grain has a life of approximately five years, and 1⅛″ edge grain has a life of 8 years. Roughly, the 1⅛″ edge grain costs about 20% more than the ¾″ flat grain, but has longer life (60%).

Depending on certain conditions at the mill known to the surveying engineer, he may recommend the porch flooring with 60% longer life at only 20% additional cost. But he would also point out that a concrete slab porch would be standing in place for generations to come, at four times the cost of the flat grain construction.

Interior Floors. Several choices of material are open to management in the selection of interior flooring or interior flooring with suitable floor covering. Much depends on how far management desires to go. In dwelling units, an educational campaign should be instituted for the occupants because a major reason for deterioration of interior flooring is overabundance of water in mopping. And the bane of the owner of a building is the practice of cutting holes in the floors to drain the water off. This procedure, no doubt, saves the occupant time and effort, but the excess water rots the floors and when drained under the house causes deterioration of the joists and sills. Engineers suggest the discontinuance of the practice.

In some instances floors may require additional support, especially where occupants have installed heavy and modern equipment, such as large refrigerators, washing machines, etc. The frequent moving of this equipment also weakens the floors.

Repair of floors, whether on porches or the interior, can be an expensive item because it is difficult to decide where to stop tak-

WOODEN PORCHES like this can be a cause of excessive village maintenance costs. Inspect them frequently, and take corrective action before major repairs are necessary.

ing up the old floor; besides, if the floor needs repairing in certain spots, it is a fair guess that later the same floor will have to be repaired either in the same place or adjoining the new section. Sometimes it is desirable to consider completely reflooring the building or reflooring an entire room.

Masonry and Chimneys. Since a number of factors affect the life of masonry and chimneys, only a thorough inspection will disclose what work is to be done. Pointing-up is not an expensive item, but it is an essential one. Unless an entire wall, pillow, or chimney must be rebuilt, a couple of dollars a year should take care of most pointing-up of masonry.

Where village homes have fireplaces, considerable maintenance expense can be eliminated if fire brick and fire clay instead of standard brick and cement mortar are used.

Painting (Interior). The mill may offer occupants of mill-owned houses the choice of interior painting of walls or wall paper. The cost of putting on the average wall paper and the cost of painting are approximately the same. However, if paint is used, oil paint is preferable.

Although the cost of either painting or papering the interior can be estimated accurately, over the long term it will be difficult in some instances to calculate the life of interior painting because of local conditions, such as climate, smoke, occupants' habits, etc. Besides, people living in the homes have their own ideas about painting and the colors they prefer, and they are just as likely to paint a newly-decorated green room to cream if they have the inclination. Some mills permit their employees to exercise their taste in interior decoration, but specify that the outside of the buildings shall be of a standard color.

Painting (Exterior). For frame constructions, some mills have a system of painting the exteriors every three years, four years, or five years. To a great extent, the location of the village or building determines the necessary frequency. A damp location or construction with green lumber can seriously affect the life of a paint job. At any rate, the frame building must be adequately protected by paint at all times, else a major repair job will be necessary.

In instances where mills have an established interval before painting, tests could be conducted to determine if the painting cycle should be extended or reduced, from the standpoint of protection. Of course, if appearance is the sole consideration, then the buildings may be painted as often as desired.

For the sake of economy, it is advantageous that exterior and interior painting schedules should coincide.

It is also economical at the time of exterior painting to re-putty the sash if it is in bad condition.

Plumbing. In mill villages which were built many years ago, upkeep of the plumbing has become an expensive proposition. Time is spent by the plumber in running from one house to another, and often he can only make temporary repairs because of the condition of the equipment.

If the survey indicates that plumbing equipment has almost served its useful life, consideration by management may be given to renovation of the entire system.

Some of Factors Covered in Building Survey

The length of a survey form used in a study of buildings (mill, village, storage, etc.) precludes publication in full; only a portion of the items is shown. In each instance the completed survey indicates for a building the general condition, type of construction (and components, e.g. roofing of composition), date painted, etc., and necessary repairs.

The completed survey includes estimated maintenance costs and offers recommendations for type of material, scheduling, etc.

Roofs
Roofing
Sheet metal

Carpentry
Weatherboarding
Porch Floors
Bannisters
Porch Ceiling
Porch Screens
Steps
Sills & Joists
Interior Floors
Sash
Sash Frames
Doors
Windows
Hardware
Guttering
Other

Masonry
Curtain Walls & Piers
Chimneys & Flues
Fireplaces
Pointing Up

Plastering
Walls
Ceiling
Other

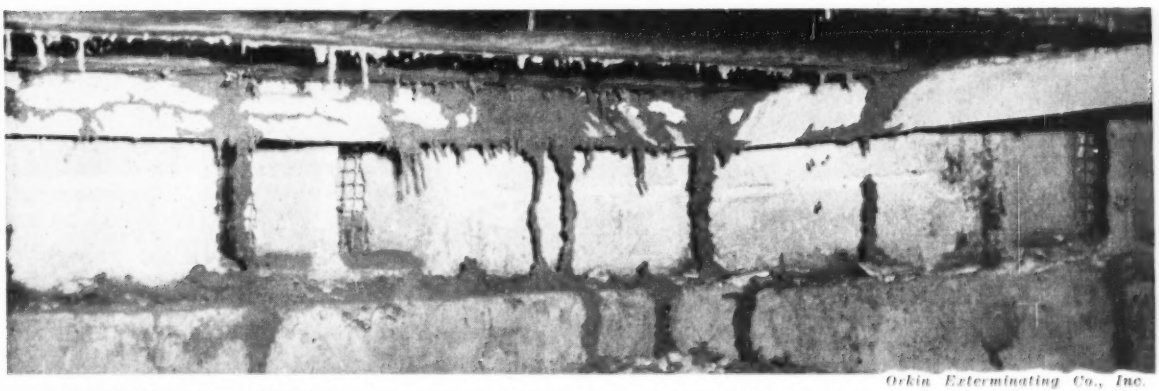
Painting
Exterior
Interior
Papering
Other

Plumbing
Water closet
Tubs
Lavatory
Sinks
Tanks
Water Lines
Waste Lines
Other

Electrical
Meters
Wiring
Switches
Fixtures
Drops
Other

RE-PUTTY THE SASH when painting exteriors if it is in bad condition. This is the most economical way. Also, it is advantageous for interior and exterior painting schedules to coincide.

APPLYING SIDING TO AN OLD FRAME HOUSE. Appearance of a number of mill villages has been greatly improved by this method.



Orkin Exterminating Co., Inc.

HEAVY TERMITE INFESTATION. Termites built tunnels over the metal shield to get to the sills of this building.

with a certain portion being replaced each year. Recommendations cannot be made blindly on this score. Inspection of the system and existing equipment is necessary, plus figures on the maintenance costs for the past few years. If these costs are steadily increasing, management may wish to decide between continually mounting maintenance costs or new equipment.

Electrical. Faulty or worn out electrical wiring is both a fire and safety hazard. A thorough inspection of each building is necessary to determine the extent of modernization or replacement which is necessary. In a great many instances, modernization of electri-

cal wiring is considered essential by management, because maintenance costs are thereby reduced. Overloading of old circuits is a common practice in mill villages, and with modern wiring the installation of cheap and dangerous wiring by occupants is eliminated.

Controlling Termites. Termites are difficult to control. Some mills farm out this work to specialists, along with control of other pests. No method of termite control is satisfactory unless it is performed systematically. If the mill is attempting termite control with its own personnel, fairly good results may be secured by using a mixture of engine oil and creosote in ditches around the interior piers and foundation walls. Even then, the buildings should be inspected twice a year, the termite tunnels removed, and the area treated. It is doubtful if the mixture will last longer than five years, at which time the full treatment must be repeated.

When fuel or debris is under the building, termite control is more difficult. Adequate storage places can be provided at small expense, which in the long run will pay for themselves.

The foregoing are a few, but only a few, of the factors that may come to light in a survey of mill building properties. Although it is necessary to make a complete study to get an accurate report on existing building conditions and estimates and recommendations for maintenance, the sampling method may be used if management is interested in a preliminary report or general estimate. Both types are considered useful by mill management for setting up a maintenance schedule and for extending probable maintenance costs for the future.

YOUR 1953 INDEX of articles appearing in "Textile Industries" is loosely bound in this issue. File it now for use later.

Cotton Fiber Made More Useful Through Reduced Crystallinity

Studies of the crystallinity of cotton cellulose reported by members of the Southern Regional Research Laboratory of the Bureau of Agricultural and Industrial Chemistry open up attractive possibilities for the creation of new textile materials or of intermediates for further processing.

A treatment of cotton cellulose with a chemical related to ammonia, anhydrous liquid monoethylamine, has been developed which reduces the crystallinity to 20-30%, without damaging the fiber structure or affecting the desirable physical properties already possessed by cotton.

Partial decrystallization of the cellulose can be expected to make cotton fiber more useful in several textile products. Although the high crystalline content in native cotton (80-90%) is responsible for many of its superiorities, the reduced crystallinity is promising for improved impact strength, toughness, extensibility - at-break, and related properties. Partly decrystallized cotton cellulose obtained by amine treatment also should have a higher dyeing capacity and greater chemical re-activity than ordinary cotton.

In further studies of the cellulose of reduced crystallinity, the extent and nature of the changes and the effects of the variables concerned in the application of the treatment were investigated. Reduction of crystallinity occurred rapidly, and was independent of the degree of polymerization of the cellulose. Reduced crystallinity was accompanied by a decrease in crystallite length; but the orientation of the crystallites with respect to the fiber axis was essentially unaffected. The greatest reduction in crystalline content was in cotton that was in a relaxed condition.

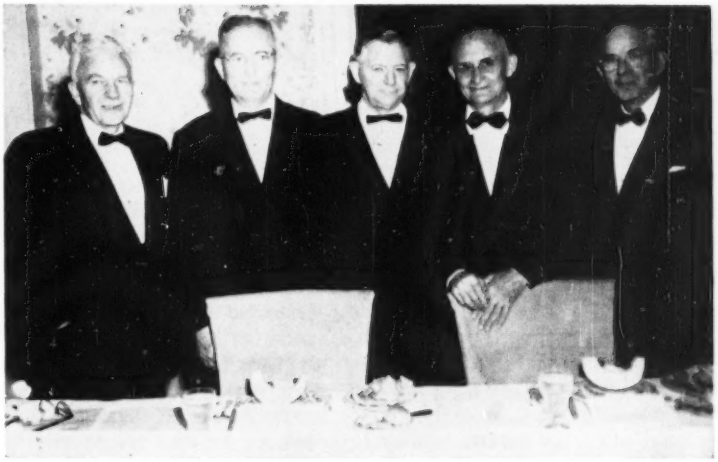
When cotton is treated with anhydrous liquid ethylamine, the amine disrupts the hydrogen bonding between the hydroxyl groups, and an amine-cellulose complex is formed. The removal of the amine from this complex in a manner to prevent the hydrogen bonds from reforming is the key to the process. When the amine is removed by an organic solvent, such as chloroform or hexane, the crystalline part of the product is cellulose I, the same as the native cellulose, but with shorter crystallites. If the amine is removed directly by distillation, cellulose III forms, in which the crystallites are still shorter. A further consideration in the removal of the amine by chloroform is the strong interaction evidenced between chloroform and ethylamine.

In a related investigation the leveling-off degree of polymerization determination has been studied, and the conditions have been established under which a reliable value may be obtained. An alternative way of determining the leveling-off DP has been devised, based on considering the value a function of the residue percentage.

The following publications, which give further information, are obtainable from the Southern Regional Research Laboratory: "Experiments on the Reduction of the Crystallinity of Cotton Cellulose," Jour. Phys. and Colloid Chem., vol. 55, no. 3, 325-336, 1951; "Determination of the Leveling-Off Degree of Polymerization of Cotton and Rayon," Jour. Polymer Sci., vol. 10, no. 6, 577-586, 1952; "Evidence for Interaction between Chloroform and Monoethylamine," Jour. Amer. Chem. Soc., vol. 74, no. 14, 3697-3699, 1952; "Further Studies on Cotton Cellulose with Reduced Crystallinity," Textile Res. Jour., vol. 23, no. 6, 428-435, 1953, and "Reducing the Crystallinity of Native Fibrous Cellulosic Material," U. S. Patent No. 2,580,-491, January 1, 1952.

New Officers and Directors

President: E. N. Brower, Rockfish-Mebane Yarn Mills, Inc., Hope Mills
1st Vice-President: W. H. Suttenfield, American & Efird Mills, Inc., Mount Holly
2nd Vice-President: M. W. Heiss, Cone Mills Corp., Greensboro
Secretary-Treasurer: Hunter Marshall, Charlotte*
New Directors, Term Expires 1956:
D. R. Johnston, Johnston Mfg. Co., Charlotte
C. S. Clegg, Globe Mills Co., Mount Holly
H. M. Jones, Waverly Mills, Inc., Laurinburg
J. W. Sears, Roanoke Mills Co., Roanoke Rapids
J. C. Roberts, Textiles, Inc., Gastonia*
Harold Mercer, Firestone Textiles, Gastonia**
W. C. Cannon, Cannon Mills, Kannapolis
*reelected
**elected for one year to fill a vacancy



Left to right in photo: Messrs. Hallett, Brower, Suttenfield, Heiss, and Marshall.

Industry Must Provide Tomorrow's Leaders

Hallett told North Carolina textile manufacturers

Staff Report

CONVENING in Pinehurst on October 15 and 16 for its 47th annual meeting, the first under its more inclusive name, the North Carolina Textile Manufacturers Association focused its attention on the problems facing the textile industry today and its role in building the America of tomorrow.

Industry's Responsibility. In his annual report to the membership, retiring NCTMA president H. K. Hallett, Kendall Mills, Charlotte, stressed the responsibility of the textile industry to do its share in assuring that America has the intellectual and spiritual resources to maintain its leadership.

He suggested a closer liaison between the textile industry and the schools and colleges which must train the young people of today to be the leaders of tomorrow. According to Mr. Hallett, the textile industry must keep educational leaders continually informed both of its own needs and the needs of the country as a whole.

Two-Price System Denounced. The association's Cotton Committee, headed by C. A. Cannon, vigorously approved a resolution denouncing proposals for a two-price cotton system.

Under this system, as it is usually put forward, that part of the cotton crop produced under acreage controls for U. S. mill consumption would be supported at 90 per cent of parity. Cotton grown in excess of the allotted acreage would be sold in the export market at world prices, which are lower than domestic prices.

The committee's report stated that the effect of the adoption of such a system would be virtually to wipe out the export of U. S. cotton goods.

States Rights. Addressing the Friday morning business session, Senator Alton A. Lennon (D., N. C.) pledged his aid to other southern senators and congressmen who have fought attempts to divert government contracts for textiles to "distressed areas" of the nation.

Classifying himself as a Jeffersonian Democrat, Senator Lennon called for a return by the Democratic party on the national level to the states rights principles which have always guided the party in the South.

The Carolinas Section of the American Society for Quality Control, meeting in Raleigh, N. C., October 9, heard speakers discuss the application of quality control to everyday mill problems. Three of the papers presented are abstracted.

How

By Edward Abrams
Head, Textile Section
Southern Research Institute

THE TEXTILE Section at Southern Research Institute was established to serve the textile industry in research and development on problems too complex for mill laboratories.

Soon after the section was activated, work on warp sizing was sponsored by Avondale Mills. Warp size development and evaluation, for cotton yarns and for the newer synthetic yarns, still account for about 50 per cent of the work of the S.R.I. Textile Section.

The section now has a complete line of spinning and weaving equipment, and is also concerned with dyeing problems and with the microbiology of textiles. In one instance these two specialties were combined.

Spotty Dyeing Problem Solved. Adelaide Mills, Anniston, Ala., package-dyes yarn, using water filtered through diatomaceous earth and passed through an ion-exchange bed. This mill had been plagued for the past few years with spotty dyeing, which appeared either on the outside of the package or just inside the metal tube.

The spots were actually bits of color which could be scraped off with a thumbnail. Underneath the spot the cotton had hardly been dyed at all. Mill personnel had traced the trouble to the water.

Examination of the diatomaceous earth filter by S.R.I. personnel showed that erratic water pressure caused the filter medium to fall away from the exit screen, permitting large pieces of slimy matter to pass through before the cake built up again. Samples of this slime and of the spots on the dyed yarn were both found to contain a microorganism known as *Bacillus subtilis.*

This organism is only a problem in textile processing where pressure dyeing is used, and then only when a filter, resin bed, and extensive piping permit the growth of large colonies of slime.

Phenyl mercury acetate (PMA) in fairly low concentration will kill *Bacillus subtilis,* and it was successfully used at Adelaide Mills. Four or five gallons are fed into the ion-exchange bed and are slowly dissipated over a period of weeks, almost as though the PMA were metered out.

Weekly water samples are taken and tested for the presence of live microorganisms. When they are found, PMA is again added to the

A Study of the Effect

THIS STUDY was undertaken to determine the amount of fly waste produced with increasing spinning drafts, in an effort to estimate the draft at which some type of vacuum scavenger system would become necessary.

TABLE NO. 1. FLY WASTE (GRAMS) VS. SPINNING DRAFTS

Draft	25	30	37.5	50
Hank roving	1.20	1.00	.80	.60
Waste collected from:				
Creel	1.78	1.62	1.88	2.09
Top revolving clearers	3.35	3.49	7.27	7.68
Scavenger rolls	13.34	15.87	26.97	51.51
Roller beams	5.16	6.53	6.77	8.02
Ring rail	.91	.57	.71	.99
TOTAL	24.54	28.08	43.60	70.29

Procedure. A blend of 60% irrigated, 40% rain-grown cotton was processed into 50-grain finisher drawing sliver. From this sliver, 54 bobbins each of 0.60, 0.80, 1.00, and 1.20 hank roving were made.

All rovings were spun to 30s yarn on a laboratory spinning frame equipped with Casablanca drafting system, using a 4.11 tm, 22.7 tpi, 9600 rpm spindle speed, and 135 rpm front roll speed. Laboratory conditions were controlled at 90 F and 55% rh.

Yarn was spun for 8 hours from each hank roving. The frame was then thoroughly cleaned, and the fly waste collected from the creel, top revolving clearers, bottom

Research Solves a Mill Problem

resin bed.

It is important to clean out the accumulated slime from the water system, if possible, before attempting anti-bacterial measures. Otherwise, the adverse effects of the microorganisms may continue for several weeks.

Fiber Damage in Processing. Another study in the field of microbiology was originally sponsored by Borden Mills, Kingsport, Tenn., and was undertaken when the author was at the Institute of Textile Technology. Its purpose was to determine whether microorganisms are responsible for deterioration of cotton fibers as they progress through the various processes in the mill, particularly during periods of shutdown.

A preliminary experiment showed that microorganisms capable of digesting cellulose and starch were present in the mill, although there was no proof that the fabrics were necessarily damaged by them.

In a further experiment, fibers and yarns from each operation were incubated for two days under conditions simulating those in the mill. All developed a heavy growth of mildew. Fiber damage was confirmed by microscopical examination. Table 1 shows the extent of fiber damage found.

Table 1. Percentage of Fibers Damaged by Microorganisms

Source	Damaged Fibers %
Bale	10
Picker lap	10
Card sliver	2
Drawing sliver	2
Roving	2
Yarn, newly spun	2
Slashed yarn (stored 3 weeks)	50
Filling yarn	50
Fabric from loom	10

These results indicate that the mildewed fibers in bale cotton are broken up and eliminated in the carding operation as card fly. This is confirmed by an examination of card fly, which is largely composed of short pieces of fiber with mildewed ends.

Most of the damaged fibers present when the fabric is woven are broken up and become the lint or shed which accumulates under the loom.

Other microorganisms may change the dyeing characteristics of the fiber, or may stain it, rather than reducing its strength. Both types can be controlled by the use of fungicides. The logical point of application is the size box, since only 2 per cent of the fibers in the newly spun yarn are damaged.

# of Spinning Draft on Fly Waste

Presented by a Mill Research Laboratory

scavenger rolls, roller beam, and ring rail.

Results. Table 1 shows the amount of the various types of fly waste collected at each draft.

Fly waste from the scavenger rolls was not only the largest in quantity, it was also the most sensitive to changes in draft. Doubling the draft produced nearly a fourfold increase in scavenger roll waste.

The surprisingly small amount of waste collected by the top revolving clearers may be explained by a tendency of the fibers to follow the steel roll because of gravity or surface attraction.

The curves for total waste and scavenger waste in Figure 1 appear to level out as the draft decreases. They seem to reach a minimum between drafts of 20 and 25, below which lower drafts would not appreciably reduce fly waste.

In the lower draft ranges of 25 to 30, fly waste increases almost in direct proportion to the draft changes, but with higher drafts the waste begins to increase much more rapidly than the draft.

Other factors which affect fly waste were not considered in this study. These include fiber proper-

(Continued on page 115)

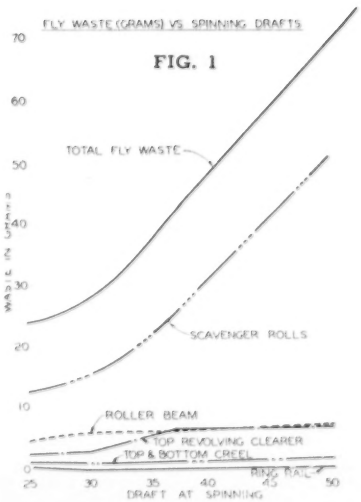
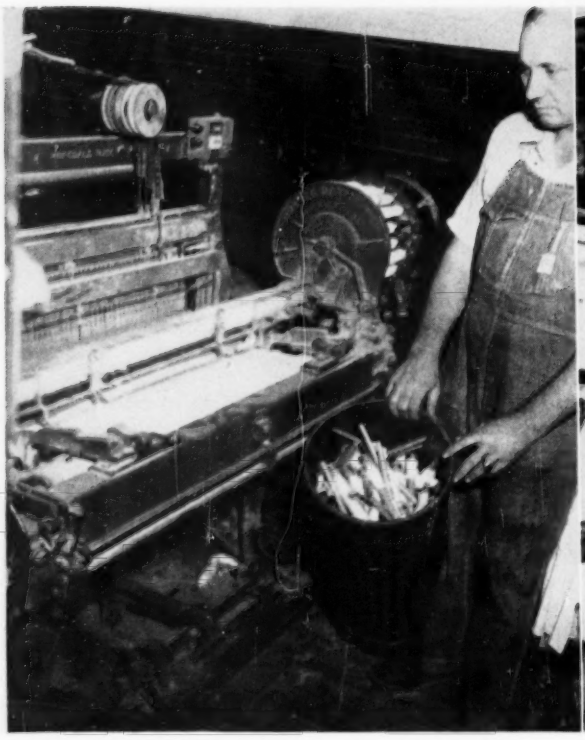
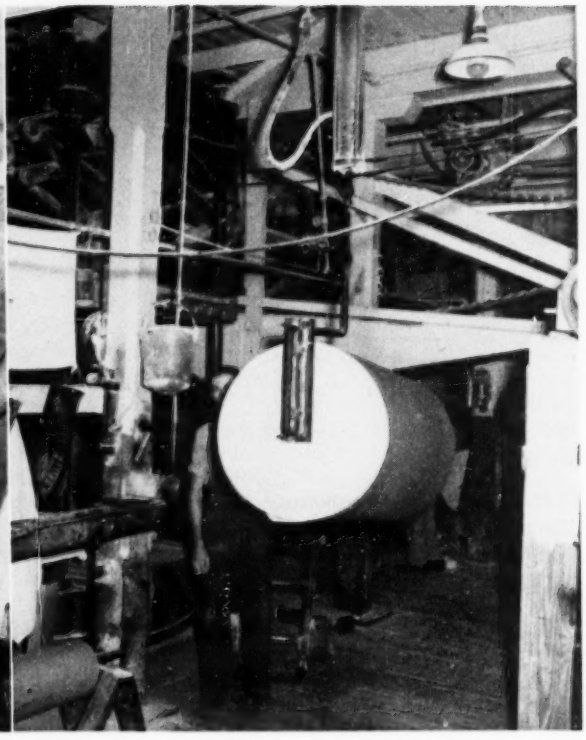


FIG. 1



SOILED BOBBINS, damaged warps, and a spare loom team up to provide adequate cloth roll covering material and also an additional use for cotton mill goods.



PNEUMATIC LIFTER was improvised for cloth roll covering. Here, lifter bar has been inserted in cloth roll core tube, and lifter suspends roll ready for covering.

Here's a Good Way to Use Those

Staff Prepared

Cloth roll covering fabric is woven from them in a North Georgia cotton mill.

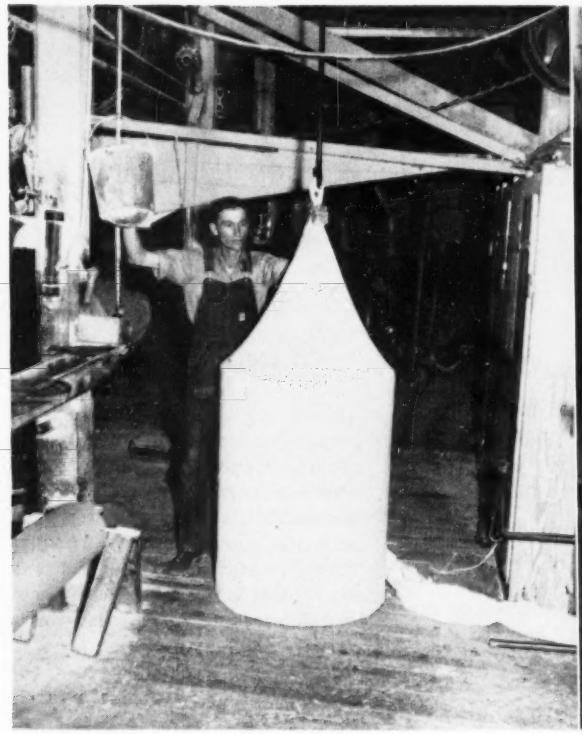
EXCLUSIVE

SOILED filling and damaged warps are utilized effectively to make cotton cloth tubing (about 48 x 24 construction) for use in covering cloth rolls and bales at Hartwell (Ga.) Mills. The practice in this mill is both expedient and economical in view of the fact that the covering material is available in suitable quantities when needed, and the damaged filling and warps would not go into first quality goods anyway.

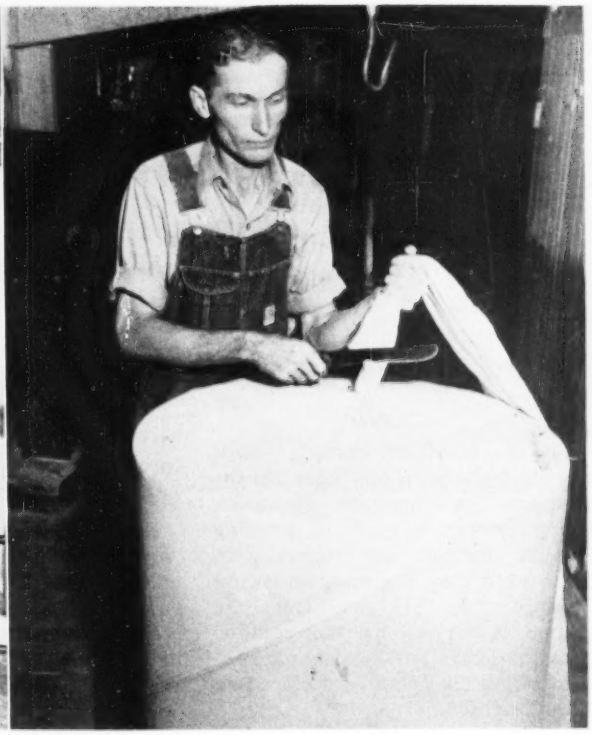
A few extra loom parts were purchased (such as cams) to convert two looms (one X2 and one E Model) for weaving the cover material. When a supply of cover material is made up for inventory, the two looms may be easily put back onto regular production. This mill produces Class B sheetings, 48 x 48 5.00. In changing the looms for regular production, the two extra harnesses are removed, leaving two harnesses for weaving sheetings.

The tubing or double-width cloth is taken from the loom to the cloth room where one side is sewn on a bias with a flat seam on a Union Special sewing machine .The tubing is 30″ wide and the spiral effect (produced by sewing the seam on a bias) assures a snug fit on any roll of cloth within 10″ diameter variation of standard size rolls in this mill. The rolls of cover cloth contain about 200 yards each and are sewn one at a time as they are needed. The sewn cloth tube is placed near a pneumatic lifter which is employed in covering the cloth rolls.

The pneumatic lifter was made in the mill shop to simplify handling the cloth rolls during the covering operation. The operator places a lifter bar into the cloth roll core tube and lifts the roll by using the pneumatic lifter. While the roll is suspended, wrapping paper is applied and held in place



PNEUMATIC LIFTER HOOK is used again to pull cover tight preparatory to applying wire loop to secure the package.



FINISHED PACKAGE is neat. Knife is used to cut end of tubular cloth roll covering material. Note typical snug fit of covering on this roll and spiral seam.

Damaged Warps and Dirty Filling

by gummed tape. Then the tubing is pulled over the roll similar to the way a sock would be put on a foot.

A wire loop is used to fasten and close the tube at one end. Then the cloth roll is lowered to the floor, the lifter is employed to pull the cover tight, and another wire loop is applied to close the tube at this end. A knife is used to cut the cover material, a stencil is applied, and the cloth is ready to be stored or shipped.

DOUBLE CLOTH sewn on bias to produce spiral effect is pulled onto cloth roll like putting on a tremendous sock. Spiral effect of tubular cloth assures snug fit.

Guilty or Not Guilty, Mr. Knitter?

Yarn Can Be Handled Too Much!

By Don Numan

EXCLUSIVE

MOST circular knitting mills handle yarn too much. At the moment we are not discussing any particular types of knitting mills; our primary interest is in the yarn they consume, and what happens to this yarn from the time it arrives by the case or carton at the mill's receiving platform until it actually is placed on the machines.

There are no cheap yarns available today; what the mill pays for a pound of yarn plus freight, plus sales tax (if any), plus federal tax (if any), plus this, that, etc., is supposed to be the actual cost per pound of yarn. The real cost, however, is based on how much first class merchandise is produced from the tons of yarn purchased. A great deal depends on how much yarn and how many pounds of goods are wasted due to unnecessary, excessive, and careless handling of yarn — and improper storage facilities.

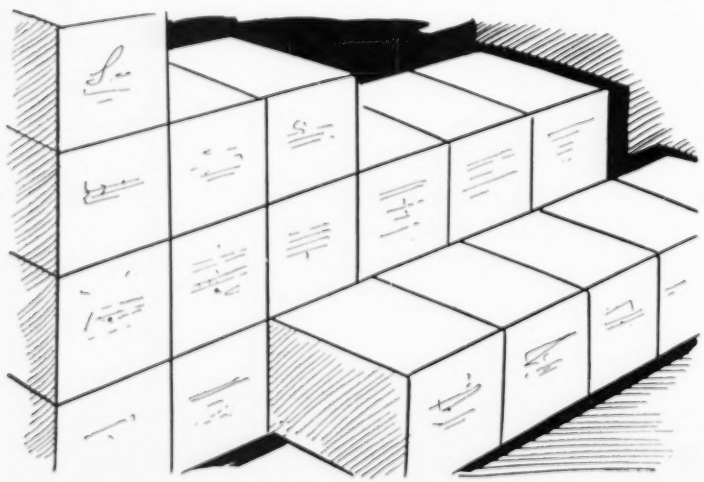
Storage. The best place to store yarn, particularly cotton yarn, when it is purchased months in advance in large quantities is in a room where the humidity and temperature are controlled. Some large mills, and most of the small ones, will say they simply cannot afford that. What they really mean is they can't afford to be without it. The next best place to store yarns is a good basement where humidity and temperature will not vary a great deal. Be sure there is adequate and fast drainage so yarns will not get wet in case water lines fail. Double check drainage outlets; they are usually covered with trash, sweepings, etc.

The poorest place to store yarn by the case or carton for long periods, and especially when cones are unwrapped, is in departments where circular knitting machines are located. Here the humidity is only that supplied by nature; then it may be an overdose for a day or so and the temperature will be 80 to 100 or more as a rule—not a good place to store any kind of yarn.

Keep enough yarn on hand in knitting rooms to run one, two, or three shifts, no more. Bring additional yarn from storage room as needed.

The writer is fully convinced that the best place to keep yarn is in the case or carton in which it was shipped. Bring yarn from storage room to knitting departments by the case, and replace cases as needed. Have machine operators take wrapped yarn out of cases and keep it wrapped until yarn is actually placed on machines. By following this simple procedure, 50% or more of useless and harmful yarn handling can be eliminated.

STORE YARN in a room where temperature and humidity are controlled. This is most desirable; however, a good basement where temperature and humidity do not vary a great deal will serve the purpose.



Improper Handling. Recently while visiting in a fairly large mill, one incidentally which has a reputation for being well managed, we became interested in how they handled their yarn. We asked permission to follow their yarn route and none other than the yarn man led the way. So come along, readers, and we shall show you what we saw.

From the receiving department, cases are hauled by hand truck several hundred feet to a freight elevator, then down to the basement. The basement is well lighted, and cases and cartons are stacked two or three high with a stack-

ing machine. There is about six inches of space between the cases and concrete floor. The yarn man says the place is cool in summer and not too warm in winter; really looks like a good storage room, better than some we have seen.

So far so good. We ask our guide, "where do we go from here?" and he answers, "Got to deliver some yarn to one of the knitting departments. Just follow me." He opened two cases of yarn and brought a fairly large slotted wooden truck which was somewhat beaten up.

We helped the yarn man unwrap every cone and tossed each cone at least four to six feet through the air before it landed in the bottom of the truck. The truck held about 1½ cases (perhaps three to four hundred pounds). When it was full we moved the truck onto the elevator and up several floors to one of the knitting rooms. Here we found more slotted wooden bins, and the yarn man proceeded to pitch and toss cones of yarn into the bins helter skelter. When the bins were nearly full and the truck empty he said, "Well, that's that; guess I had better get another load; they will need it tonight on the second shift."

In a few minutes a machine operator arrived and filled a canvas basket with unwrapped cones of yarn. This particular operator, like the yarn man, tossed the cones rather roughly into the basket and finally forced several into the corners to get a full load.

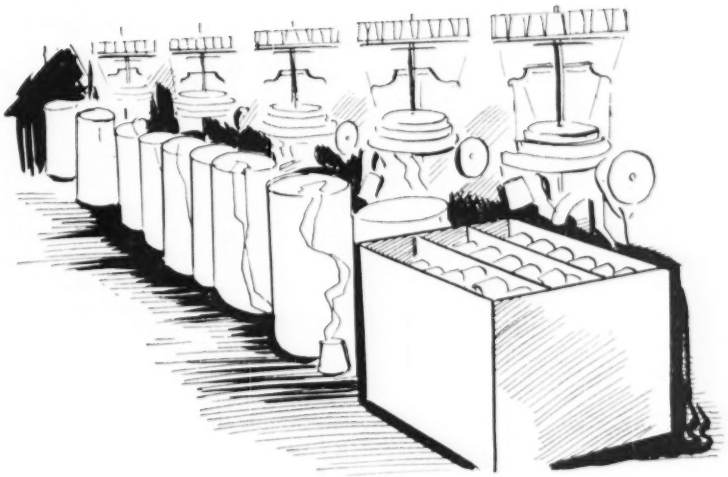
The foregoing example of handling may sound like an isolated case, but it is not; it simply proves what we said in the beginning — too much handling of yarn.

Now how can this particular mill improve yarn handling, save time, money, labor, and reduce waste seconds and yarn too? The answer is simple:

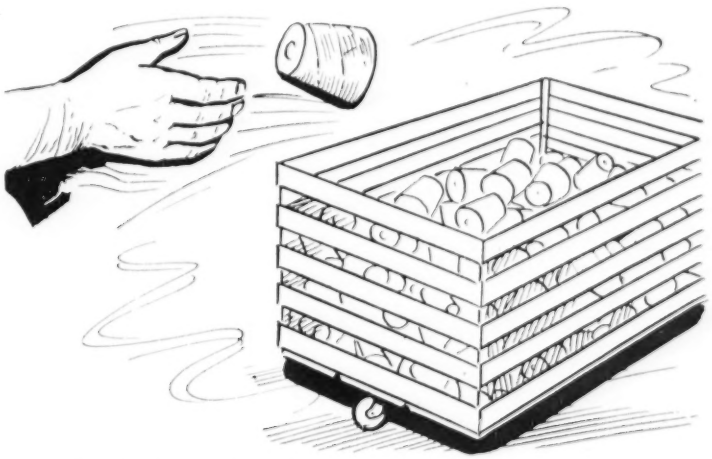
(1) Swap the old wooden slotted yarn truck for a good modern hand truck.

(2) Bring yarn by the case or carton from storage to knitting room.

(3) Make kindling wood out of

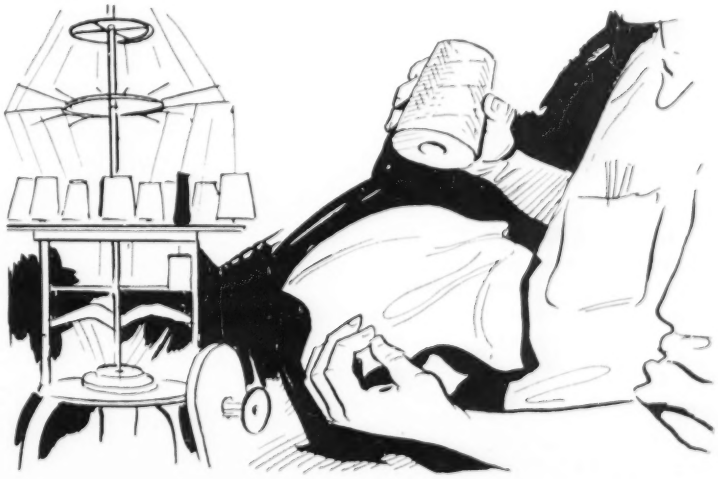


BRING YARN TO KNITTING ROOM BY THE CASE and replace cases as needed. Leave wrapped cones in case until needed.



DON'T DO THIS. "We helped the yarn man unwrap every cone and tossed each cone at least four to six feet through the air before it landed in the truck."

KEEP YARN WRAPPED UNTIL PLACED ON MACHINES. Place wrappers in convenient container which can later be dumped into empty yarn case for removal from knitting room.



the so-called yarn bins in the knitting room.

(4) Put full cases of yarn in the space taken up by the yarn bins.

(5) Have operators take wrapped cones out of cases and unwrap cones only when they are finally ready to put on machines.

(6) Wrappers should be put in canvas basket by operators as yarn is consumed and dropped into empty case for yarn man to remove.

Boiled down, here is what happens to yarn when unnecessary handling is cut out. The yarn man brings full cases to knitting room, pulls nails out of lid, takes empty cases back to basement. The machine operator handles yarn once while wrapped, and the yarn will not be injured, will not get dirty, cannot accumulate lint, oil, grease, etc.

Yarn cones are then actually handled once before being placed on machines instead of three times. Surely anyone can readily see that unnecessary and rough handling of yarn should be avoided. The services of an efficiency expert are not required to determine this.

It does seem strange that we find habits, systems, and practices going on in 1953 which should have been changed in 1923 for the benefit of all concerned.

Test Single Fibers Four Times as Fast with New Device

A device which is reported to speed up the testing of single fibers at least four-fold has been developed at the School of Textiles, N. C. State College.

The apparatus, useful in preparing single fiber specimens for the Instron and similar testers, operates on a pneumatic principle. The fiber is held at each end by suction from two small-diameter rubber hoses, while the operative mounts it in a special clamp, also designed at the School.

The mounting device, applicable to all fibers, should be most useful for cotton, whose short staple length makes single-fiber testing a difficult technique.

In Naphthol Dyeing of Piece Goods

Proper Preparation and Application of Naphthols Are "Musts"

Most of the troubles arising in naphthol dyeing can be traced to faulty preparation and dissolving of the naphthols, or to improper naphtholation (impregnation) of the material.

Two methods of dissolving the naphthols are used: the cold method, using alcohol; and the hot method, using turkey red oil. In the cold method, the naphthol is well pasted with alcohol, using 3 gallons of alcohol to 10 pounds of naphthol. Caustic equal in weight to the naphthol is dissolved and added slowly until a clear solution is obtained. One-half gallon of water at 200 F is then added.

With the hot method, the naphthol is pasted with turkey red oil and thoroughly mixed. It is then poured into a mixing tank containing water, to which caustic flakes are added. Heat is applied until a perfect solution is obtained. When liquid caustic is used, boiling water must be added to the caustic before it is poured into the naphthol, particularly in winter.

Dyeing. The method fast becoming recognized as the best and most profitable way to dye naphthols on piece goods is to use non-substantive naphthols, coupled on a three-bowl pad with continuous washing and drying.

The naphthol is padded on a two-bowl pad at 190 F, dried in a hot flue, and coupled continuously on the three-bowl pad with suitable skying arrangement. Soaping, washing, and drying follow, also continuously.

Small additions of substantive naphthols can be used along with the non-substantive naphthols to obtain a wider range of shades.

Bases and Fast Color Salts. In diazotizing bases in the normal manner, it is important that the sodium nitrite solution be as strong as possible. Better diazotization will be obtained if the acid solution is cooled with ice to about 28 F before the nitrite is added.

It is imperative that the sodium nitrite be added slowly, and that neutralization with sodium acetate be done equally slowly. If the sodium acetate is added too quickly, a partial separation of the base can easily occur.

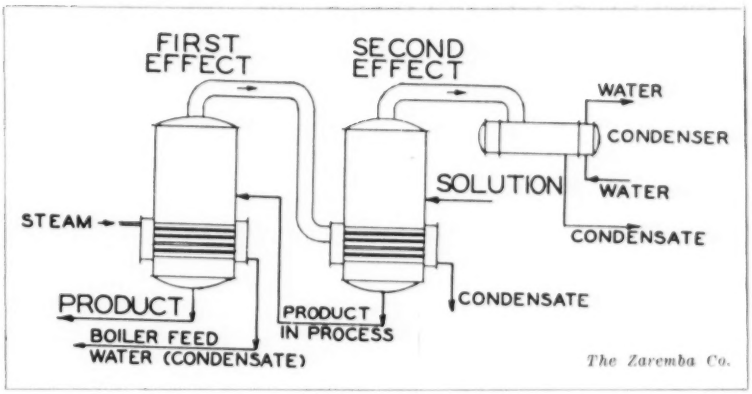
Fast color salts can be readily dissolved in cold water to which a small amount of Stabilon or similar product is added. After the solution has stood for about 20 minutes, 2-3 pints of acetic acid 56% diluted with two gallons of water are added.

For coupling fast color salts, the bath should be at pH 4 to pH 5.

Naphthol Dyes on Dacron. The following procedure is recommended for high-temperature dyeing of Dacron with naphthol dyes:

1. Scour Dacron at 160 F with 1% Orvus. Drop.
2. Add Purasist, 2½ grams per liter on volume of machine, dissolved with 3.3% Stabilon on weight of Purasist and necessary amount of alcohol in hot water. Boil, add to dyebath at 120 F, run 10 minutes.
3. Heat bath to boil; strain color base dissolved in 42% alcohol, 2% Stabilon, heat to boil, add slowly to bath.
4. Strain naphthol dissolved in 48% alcohol and 0.7% caustic, cut steam and add slowly to bath. Raise to 212 F, run 15 minutes, 5 out-5 in.
5. Raise to 250 F, run 1 hour, 5 out-5 in.
6. Cool to 140 F, rinse. Diazotize 8% sodium nitrite, run 5 minutes, 2½-2½. Add 12% hydrochloric acid 32° Tw, run 15 minutes.
7. Raise slowly to 200 F, run 40 minutes. Drop.
8. Give running wash 10 minutes, soap off at 212 F for 20 minutes, 5-5, in 2% Stabilon, 1% caustic. Drop.
9. Run in 2% ammonia 2% Stabilon at 180 F for 20 minutes, 5-5. Drop.
10. Wash, soap in 2% soda ash, 1% hydrosulfite, 2% Stabilon for 20 minutes, 5-5. Wash. Dry.

Based on a paper presented by R. H. Nuttall, American Aniline Products, Inc., at a meeting of the Piedmont Section, American Association of Textile Chemists and Colorists.



DOUBLE EVAPORATOR (countercurrent flow of solution) for recovery of by-product caustic soda such as that from a mercerization process.

Finishers: Here are factors to consider if you are planning—

Caustic Recovery by Evaporation

By Cecil B. Ray
Chief Chemist
Bleachery Division
Pepperell (Ala.) Manufacturing Co.

EXCLUSIVE

MOST manufacturers producing electrolytic sodium hydroxide have to concentrate the caustic from 5% to 50% or 73% solution. This is done by evaporation in multiple effect evaporators.

If a finishing plant produces enough by-product caustic from its mercerization process to pay for the initial investment of installing an evaporator in a reasonable time, the plant should be able to accomplish the same result as the sodium hydroxide manufacturers. This is true since an evaporator is essentially a boiler plant, using steam as the heating medium, instead of coal, gas, or oil; and operating under vacuum, in part. Most finishing plants have enough boiler plant experience to be able to operate with these differences, without insurmountable difficulty.

Facts Needed. In considering the possibility of purchasing an evaporator, the essential facts needed are as follows:

(1) Caustic input in mercerization.

(2) Amount of "reclaim caustic" now being recovered and reused (expressed in same percentage as caustic input).

The difference between these two amounts represents the amount of sodium hydroxide that could be reused on the mercerizer, or elsewhere, if it were reconcentrated to the proper strength. From this difference should be deducted about 25% waste allowance, to be conservative, although higher rates of recovery have been obtained.

To obtain the foregoing facts, a careful survey must be made, determining the per cent pickup of caustic in the mercerizer, the strength and volume of the wash water at all stages, the per cent caustic remaining in the cloth, the strength and amount of reclaim that is presently being used, and the improvement in strength and volume of reclaim that could be accomplished. However, some preliminary calculations can be made with information readily available, prior to such a survey, or to see if a survey is necessary.

Caustic Pickup. For instance: The caustic pickup in a mercerizer is about 100%, based on dry weight of fabric, of approximately 22% sodium hydroxide. The caustic pickup in the caustic saturator of a continuous bleaching range is supposed to be 100% of 3.5% sodium hydroxide. Thus if a plant is bleaching and mercerizing the same average weight cloth, it will use more caustic in mercerizing than in bleaching, unless it bleaches about five times as much cloth as it mercerizes. Even in this instance, an evaporator would be of some aid for the following reasons:

The continuous bleaching range requires caustic made up at 15%-20% and fed in proportion to maintain the 3.5% saturator strength. Since the average mercerizing washing system will produce only about 5% caustic, it is necessary to add 50% caustic to reach a final strength of 15-20%. If 5% reclaim caustic from the mercerizer and 48.5% sodium hydroxide from storage are combined to produce a 16% caustic feed to the saturator, the final solution will contain 74.5% of 5% sodium hydroxide and 25.5% of 48.5% sodium hydroxide when calculated on a basis of pounds of liquor used. But, when calculated on a basis of pounds of solid sodium hydroxide used, only 23.3% of 5% caustic and 76.7% of 48.5% caustic are

Plan Seminars for Woolen and Worsted Mill Supervisors in South

Three one-day seminars for woolen and worsted mill supervisors in the South have been tentatively scheduled by the National Association of Wool Manufacturers, according to R. C. Oberdahn, industrial relations advisor. Definite scheduling of the meetings will depend on the demand, he said.

All southern wool mills have been invited to participate. Seminars are slated for the Durham-Raleigh, N. C., area, December 7; Atlanta, Ga., December 9; and Chattanooga, Tenn., December 11.

Mr. Oberdahn will preside at the morning session, discussing the discharging of supervisory responsibility and the economic facts of the wool industry.

In the afternoon there will be five concurrent forums with technical experts presiding as follows:

(1) Picking and carding, A. W. Reynolds, Davis & Furber Machine Co.;

(2) Spinning and twisting, Harry Moss, Whitin Machine Works;

(3) Weaving, W. C. Howe of Crompton & Knowles Loom Works;

(4) Dyeing and finishing, Elmer Glaeser of Calco Chemical Div., American Cyanamid Co.;

(5) Administration, Mr. Oberdahn.

Discussion meetings of this type have already been held at Chicago (see TI for Nov., 1953, page 161) and Worcester, Mass.

YOUR 1953 INDEX of articles appearing in "Textile Industries" is loosely bound in this issue. File it now for use later.

required.

Thus, the plant that is bleaching five times as much cloth by weight as it mercerizes, is producing enough caustic on the mercerizer to furnish all the caustic requirements for caustic boiling, less the 25% waste factor; but it can utilize only about 25% of this total because of the low concentration of the weak liquor. By evaporating the 5% sodium hydroxide to 20% sodium hydroxide, recovery of the remaining 50% of the mercerizing caustic could be accomplished.

Concentrations. If this plant then expands mercerizing capacity to mercerize 40% of the goods instead of 20% and does not increase bleaching capacity, the plant must then discard virtually all of the increased caustic used in mercerizing, for lack of a place to use it at 5% concentration. However, if the caustic were concentrated to 25% for dry mercerization, or to 40%-50% for wet mercerization, the total amount, less waste, could be reused on the mercerizer.

Thus, with 25% waste, each time through the mercerizer, this caustic could be run four times on the mercerizer before being used up. As in diluting 48.5% sodium hydroxide to 16% sodium hydroxide, not much 5% solution can be used in diluting a 50% solution to 25% strength for dry mercerization. The resultant 25% liquor would contain 10% of the 5% caustic, and 90% of the 48.5% sodium hydroxide, when calculated on a solid sodium hydroxide basis. This gives 90% loss on the first pass through the mercerizer, without an evaporator, against four passes before complete consumption, with an evaporator.

The caustic can be concentrated to 50% without a great increase in evaporator capacity over that required for concentration to 20% as shown by the following example:

100 lb of 5% solution contains 5 lb sodium hydroxide and 95 lb water. To concentrate this to 20% strength, 75 lb of water must be removed, leaving 25 lb of 20% solution. The removal of 15 more lb of water leaves 10 lb of 50% sodium hydroxide.

Since kier charges are made up at 2½-3% sodium hydroxide, the concentration of wash water is sufficiently high to utilize, at 5%, provided enough kiers are boiled to consume 75% of the sodium hydroxide input on the mercerizer.

Possible Disadvantages. So far, no disadvantages of evaporation have been mentioned, but this does not mean there are none. Some possible disadvantages to be considered in the beginning are:

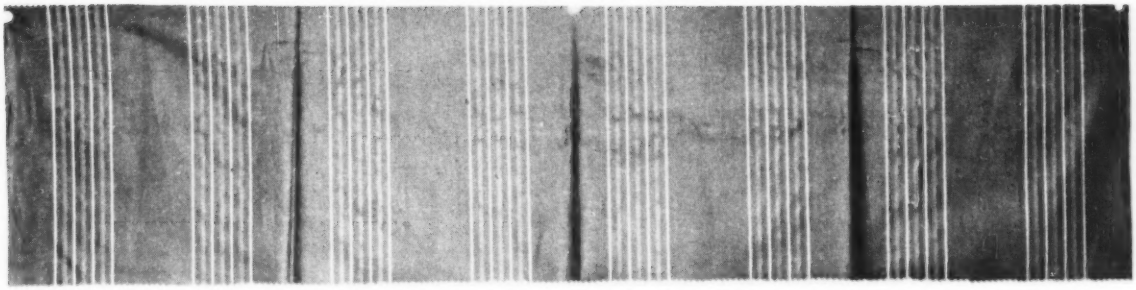
(1) Maintaining high vacuum in a system handling caustic soda.

(2) Impurities in the reconcentrated caustic, generally encountered when grey mercerization is practiced.

Maintenance of vacuum is a mechanical problem, and will improve with experience. However, the sludge evolved when the impurities washed out of grey goods are reconcentrated along with the sodium hydroxide is not quite that simple to cope with. The sludge, being slimy, is difficult to filter, and causes short filter runs and high rates of backwash. The sludge is sticky and carries out some of the filter medium during backwashing; this process is made easier by the fact that the liquor is very heavy.

Composed partly of starchy materials, the sludge becomes quite thick when cold, causing pipe stoppages, pump stoppages, and other such difficulties. If a great majority of the cloth is mercerized in the grey, dialyzers become plugged up with the sludge so rapidly that they are not a great help. Perhaps the simplest way to avoid these sludge troubles is to boil out all goods before mercerization.

Since most mercerizer systems are carefully constructed to keep the area around the machine as clean as possible, and to divert any overflows, spills, or wastes into the drainage system as quickly as they develop, it is sometimes difficult to calculate just how much caustic is being reclaimed and reused as a percentage of the wash water developed. However, by making the input at the mercerizer pad the basic figure for comparison, and sticking to that figure, it is not too difficult to determine how much reuse and how much waste of caustic is at present being effected and how much improvement could be made by the use of an evaporator.



CENTERED PATTERN of warp stripe is illustrated by this sample piece of fabric.

Aid for Designers

Easy Way to Center Warp Stripes

By Osbert Hughes

EXCLUSIVE

THERE are many different fabrics that depend upon stripe effects in the warp for their decorative qualities. These stripes may be of many kinds, varying in color, yarn counts, weave, texture, etc., and in width from pin stripes up to awning stripes and even wider. However, one thing that all warp stripes have in common, regardless of other differences, unless for special purposes the customer desires otherwise, is that the stripes should be "centered" in the goods, so that the same portion of the stripe pattern will break against the selvages on both sides.

The same applies to checks, plaids, tartans, and similar patterns. These are no more than vertical stripes formed by the warp, crossed by horizontal stripes formed by the filling. They will usually be found to have some prominent feature that should be centered, with some secondary effects that are best to break against the selvages. Also "spot" effects, and detached motifs formed from warp stripes, should be centered in the same manner.

There is no set rule by which to determine, from a style-wise viewpoint, which portion of a stripe should begin and end at the selvage edges. This will usually depend upon the good taste and judgment of the designer, or upon special instructions from the sales department or the customer. In general it will be found, upon examination of the stripe pattern, that one portion or grouping of the design forms a more prominent stripe than the remainder of the pattern. This prominent stripe is best left unbroken and the remainder or secondary portion of the pattern centered around it, so that the selvages will come next to some part of the least prominent portion of the pattern.

The following is a simple procedure that will greatly facilitate the centering and calculations required to properly lay out the warping arrangement of any given pattern. The first step is to determine the total number of ends in the warp (A), exclusive of the selvages. The next is to determine the number of ends in one repeat of the pattern (B). It follows that A ÷ B equals the number of repeats of the pattern, plus any remainder, in the complete warp.

The next step is to study the pattern of the stripe and decide which is the most prominent stripe and which portion should begin and end at the selvages. This will usually be a secondary stripe or effect so that the most prominent stripe will appear complete and unbroken, adjacent to but somewhat removed from the selvage edges.

The repeat of the stripe should then be re-arranged so that it begins with the color of warp ends (C) desired at the selvage edge. If the stripe pattern repeats in the total number of warp ends a complete number of times, it will only be necessary to begin and end the layout with one-half the number of ends in (C), and the pattern will be exactly centered and ready for the warper.

If, however, A ÷ B equals a given number of times plus a remainder (D), a simple rule to determine the stripe layout is as follows: $\frac{C + D}{2} = E$

where (E) is the number of ends with which to begin the layout for the warp pattern.

To determine the number of ends with which to finish the lay-

How Single and Ply Twists Affect Carded Yarn

The effect of single and ply twists on the properties of a 31s/2 cotton carded yarn was studied at the Southern Regional Research Laboratory, New Orleans, La. A widely grown cotton variety (Deltapine) of average fiber properties was spun into a 31s/1 yarn (Z twist) using a range of twist multipliers (2.9-6.9). Each single yarn twist multiplier construction was then 2-ply twisted (S twist) with a range of twist multipliers (1.9-7.9).

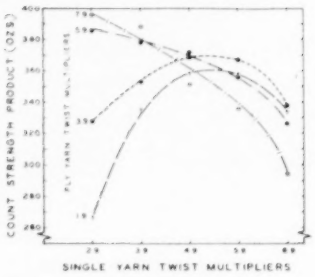
Maximum ply strength was obtained when low twist single yarns were 2-ply twisted with a high twist multiplier.

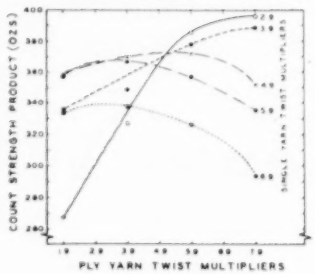
Maximum elongation at break was obtained with a similar single-ply twist construction.

For certain twist constructions single and ply twist may be varied within reasonable limits without materially decreasing strength. When the same twist multiplier was used in the single and ply yarn, maximum ply yarn strength was realized with that twist multiplier which resulted in maximum single yarn strength.

Elongation is related linearly and directly to equivalent twist multiplier constructions.

The ratio of ply to single yarn strength, based on maximum ply yarn strength, was highest when single yarn strength was lowest (low twist), decreased rapidly as the single yarn strength approached maximum, became approximately constant in twist combinations resulting in single yarns of maximum strength, and increased slightly as single yarn strength decreased (very high twist).





Effect of single yarn twist (above) and ply twist (below) on single strand strength of a 31/2 carded cotton yarn.

The findings show that strength, elongation, and indirectly the aesthetic properties of ply yarns must be compromised, since it is impossible to obtain maximum values for each simultaneously. The data provide a basis for producers of two-ply yarns to select single-ply twist multiplier combinations which will produce yarns of required quality at maximum processing efficiency.

Note that for popular constructions both single and ply twist may be varied within reasonable limits without materially decreasing strength, thereby permitting a certain flexibility in spinning and twisting organizations which can aid processors to meet advantageously production or other end use requirements.

*This is an abstract of one phase of a broad study at SRRL by Louis A. Fiori, John J. Brown, and Jack E. Sands. The entire report on the 31s/2 study will appear in a future issue of "Textile Research Journal." Readers will note that this is the first report based on one type of cotton and one yarn number of varying single and ply twists. Other work in progress at SRRL has shown that the length and fineness of the cotton fibers and the yarn number influence the relationships. Therefore the findings presented here are only applicable for cottons which have the same general fiber properties and for the yarn number used in the study.

out (F), subtract (E) from (C).

To check the result, (F) plus (D) should equal (E), plus or minus one if (E) is an odd number.

The illustration [at top of page 113] shows a warp-striped fabric that has been properly centered in the goods. An example of the rule as applied to this pattern and fabric would be as follows:

There are 3732 ends in the warp (A), exclusive of the selvages. The pattern of the warp stripe (B) is as follows:

		3 X			
White		8		8	32
Blue	236	20	20		356
Red		24			72
					460 total

There are 460 ends in one repeat of the warp stripe; therefore $3732 \div 460 = 8$ times, plus 52 remainder (C). If a decision were made to consider the small cluster of White, Blue, and Red ends as the prominent stripe, and to begin and end at the selvages through the Blue portion containing 236 ends (C), the centered warp layout will then be as follows;

8 times + 52 ends

		3 X			
White		8		8	256
Blue	144	20	20	92	2900
Red		24			576
					3732 total

The last column shows the total number of ends of each color in the full warp. Selvage ends must be added to these. This layout is now ready for the warping department.

In cases where the remainder contains more ends than are in the portion of the stripe desired to begin and end the layout, some additional re-arranging will be necessary, but this procedure may still be used.

The use of this simple plan will greatly expedite the arrangement of warp stripe layouts where a balanced or centered effect is desired. The procedure may also be applied to stripes woven on Jacquard looms, although here the number of hooks used in the Jacquard must be evenly divisible by the number of ends in the stripe layout. The stripe pattern should be selected or designed with this in mind. The rules may then be applied to properly center the stripe in the repeat of hooks in the Jacquard tie, rather than in the complete warp as is done on a fabric woven on a plain or dobby loom.

Effect of Spinning Draft on Fly Waste

(Continued from page 105)

ties, yarn count, roving and yarn twist, type drafting system, top roll material, type of saddle and lubrication, temperature and humidity, speeds, static, top clearers, and overhead cleaning system.

Conclusions. Based on the observations made in this study, some type of vacuum scavenger system is needed in spinning when drafts are above the 35-40 range. This can be influenced by the factors as listed.

Trouble Shooting with the Uster Tester

By Elvin H. Bond
Supervisor, Processing Development
United States Rubber Co.

THE USTER tester can be used for quick evaluation of the quality of processing in drawing, and makes it possible to pinpoint the deliveries that are causing unevenness.

In Figure 1 is illustrated the standards used for uniformity of finisher drawing sliver for carded yarn, based on Uster integrated values, and using average cotton. It has been conclusively demonstrated that any sliver having an integrated value of about 5.0% or more is being influenced by mechanical faults on the drawing frame.

The effect of finisher drawing sliver uniformity on spinning breaks is shown in Figure 2. An increase of 1.4% in sliver nonuniformity was followed by an increase of 14 ends down per thousand spindle hours. These tests were made on 12.2s yarn; for lighter yarns the difference would be even greater.

The effect of mechanical faults on the regularity of finisher drawing sliver is graphically demonstrated in Figure 3. The solid line records the nonuniformity of sliver as originally found on deliveries throughout the card room. The dotted line shows how the correction of mechanical troubles brought the uniformity of sliver from all the frames within acceptable limits.

The Uster tester has been able to point out the following mechanical faults on the drawing frame:

1. Weight hooks elongated, bent, and rubbing the steel rolls. Some had cut the rolls in half.

2. Adjustable weight hangers too long and resting on the weight release bars.

3. Weight linkage binding; weights resting on bolt ends.

4. Worn roll stands, broken stands, and scored rolls necks.

5. Gears worn and with broken teeth.

6. Flattened top rolls with worn out coverings.

In summary, a more even drawing sliver has the following effects:

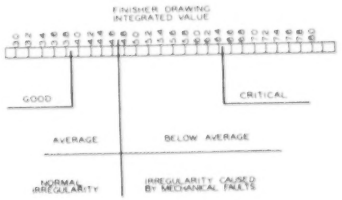
1. End breaks in spinning are fewer, hence costs are reduced.

2. Yarn is stronger and more uniform.

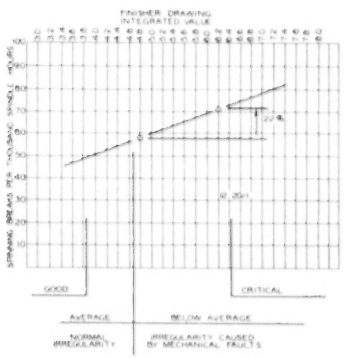
3. Better winding.

4. Better weaving, with fewer loom stops.

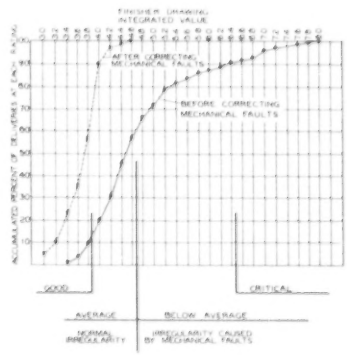
5. A better fabric, with fewer seconds.



UNIFORMITY STANDARDS (Fig. 1) for finisher drawing sliver.

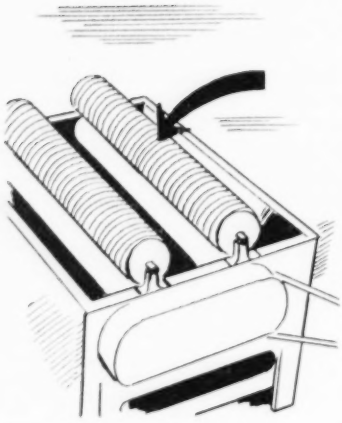


SLIVER UNIFORMITY VS. ENDS DOWN IN SPINNING (Fig. 2). This graph shows the effect of finisher drawing sliver uniformity on spinning breaks of 12.2s yarn.

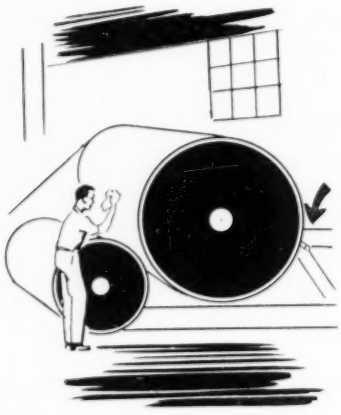


EFFECT OF MECHANICAL FAULTS (Fig. 3) at the drawing frame on the uniformity of finisher drawing sliver.

SIZE MIX. Feed mixture of one part Hycar 1561 to two parts water (plus 5% of P.G. 200, based on Hycar solids) to size box from drum or through existing equipment. No heat in size box is required.



SQUEEZE ROLLS. Use yarn wound squeeze rolls with extra pressure; optimum weight can be determined by mill for cloth construction and pickup. Rolls will have build-up of latex.



RETARD STICKING. Coat cylinders with thin layer of Decetex 104 to retard sticking and build-up. Clean cylinders and parts frequently. Leave only 5% or less moisture in the warp leaving slasher.

Results to expect and

How to Run Latex Size

Staff Report

RESEARCH is putting the warp sizing operation in the category of a permanent finishing process. Experiments in the laboratory and commercial production mill runs indicate that sizing blue denim warps with a high nitrile acrylonitrile-butadiene latex (Hycar 1561 by B. F. Goodrich Chemical Company) impart these properties to denim cloth:

1. Increased abrasion resistance with each laundering; up to 100% for five launderings.
2. Retention of the blue denim color after numerous launderings.
3. Resistance to crocking, permitting blue denims to be laundered in the same bath with white goods.
4. No transfer of color to other fabrics when ironed, opening the field to fashion by trimming blue denim with light colored cloths.
5. A permanent finish with soft hand; no solvent is known for the polymerized product.
6. Improved breaking strength (slight).

The latex warp sizing treatment was developed experimentally by the textile section of the Southern Research Institute of Birmingham, a non-profit organization which does research in various fields, of which textile work is highly important; all such work is performed for sponsors under contract. Mill tests and production runs were carried out at the Wetumpka, Ala., plant of Alabama Mills, Inc. Other denim manufacturers are exploring the subject at this time.

Sizing at Room Temperature. The new process of sizing with the latex in the size box of the slasher is done without starch and without heating the latex or the size box; sizing is performed at room temperature. However, the cylinders of the slasher are heated in the customary manner.

Tests and production runs show that 6% latex on the warp yarn produces best results to achieve good running in slashing and weaving, and the essential properties in the woven cloth (abrasion resistance, color retention, soft hand, resistance to cracking, etc.)*.

Inasmuch as the Hycar 1561 comes from the manufacturer as a 39% solids emulsion, to get the 6% solids pickup in the size box the Hycar solids mix should be 15%. A simple way to achieve this is to mix two parts water with one part Hycar. This may be done in the regular size equipment or by preparing the mix in another Hycar container (55 gal) and letting it flow to the size box by gravity, thereby releasing the conventional mixing equipment for conventional slashing.

Yarn Wound Squeeze Rolls. To

*Typical applications of rubber latex to cotton textiles are for artificial leather, carpet and rug backs to reduce skidding, waterproofing, hose, tire cord, etc. High concentrations of rubber solids are used. The denim application is to the warp yarn only, and 6% by weight on the warp yarn.

LOOM CLEANING. Blow-off frequently to reduce accumulation of lint. If lint patches go forward with the cloth, they must be picked off by hand. Overhead traveling loom cleaner may reduce manual blowing-off.

on Denim

get this 6% pickup, yarn wound squeeze dress rolls (either cotton or wool) are used under extra pressure, for it is necessary that the latex-sized warp not be too wet when the yarn reaches the drying cylinders, else the build-up of latex on the cylinders is too rapid and the yarn sticks.

Retarding Latex Build-up at Slasher. A rapid build-up is also evident on squeeze rolls and the wet lease rod of the slasher, but the addition of Polyethylene Glycol 200 (5% of Hycar solids) retards the build-up at these points and on the cylinders. However, the drying cylinders should also be cleaned and coated with a thin layer of Decetex 104, which can be wiped on with a cloth, to further retard the build-up and sticking. (When the rubbery substance turns loose and gets on the yarn, a break-out on the slasher at the lease rods may occur.)

Although the Polyethylene Glycol 200 was added primarily to aid the physical operation of the slasher and to retard the build-up of rubber on the squeeze rolls and cylinders, it also appears to improve the abrasion resistance of the yarns.

As noted previously, no solvent is known for Hycar 1561, so the cylinders and other slasher parts cannot be actually cleaned of the rubbery substance build-up by dissolving it. However, solvents as used by the plastic industry will make the rubbery build-up on the cylinders softer so that it is easier to remove by rubbing with a cloth. Another way is to peel the build-up off manually.

Learning to size with the latex involved a great many problems, and since much of the unsuccessful routine would be repeated by mills undergoing initial runs, precautions or a list of "don'ts" are given (see box).

Don't Leave Yarn Too Wet. When processing at the slasher with the latex size, mills may expect as good or better "bust" at the lease rods, when compared with conventional sizing ingredients, provided, of course, that the yarn does not reach the cylinders too wet, in which condition the insertion of lease rods is difficult because the ends are held together. Also, pieces of rubber are left on the cylinders when the yarn passes

Precautions for Mills Planning to Run Latex-Sized Warps

Don't expect to run slasher continuously without extra cleaning and treatment. Use Decetex 104 on cylinders to prevent sticking; even then the cylinders must be cleaned by manual labor. The latex sticks to Teflon, but the latex is easier to remove from a cylinder covered with Teflon.

Don't *deliver very wet yarn to the cylinder. Make a concentrated mix, then squeeze thoroughly so that yarn is damp — not wet.*

Don't try a pre-dryer between size box and cylinder; it did not work. Use yarn-wound dress roll with plenty of pressure.

Don't *attempt to run without a humectant in the size box, such as Polyethylene Glycol 200; 5% on basis of Hycar solids will retard build-up on squeeze rolls.*

Don't leave too much moisture in the yarn as it comes off the slasher. Keep to 5% or less. This will eliminate sticking of yarn in warp and fabric at loom (latex has not had time to set). (In view of this precaution, is it possible to improve weaving by running at a lower relative humidity?)

Don't *let Hycar 1561 freeze. Latex settles out upon freezing. Store drums indoors.*

Don't attempt to retard build-up on squeeze rolls by water spray. The build-up is retarded, but the size is diluted.

Don't *expect trouble at drawing-in or tying-in; operation is the same; no changes are necessary.*

Don't worry about build-up of latex on equipment after the fabric leaves the loom; no additional cleaning will be necessary.

Physical Properties and Cellulose of Cotton Studied in Relation to Changes During Manufacture into Yarn

Certain physical properties of cotton are somewhat affected by the tensional forces applied during the mechanical processing of cotton into yarn, but there is no detectable degree of chemical degradation in cotton cellulose that can be associated with ordinary textile processing —according to research results reported by the Southern Regional Research Laboratory of the Bureau of Agricultural and Industrial Chemistry.

Information on the effects of mechanical processing on the basic qualities of cotton is of practical importance, since any damage to the fibers or any changes in the cellulose in cotton that might occur during mechanical processing would be carried over into the textile products, and might reduce their usefulness.

When seven American-grown commercial cottons, representing a range of fiber properties, were processed through the yarn stage, elongation-at-break of the fibers was lower after processing, and the altered fibers had a greater modulus in tension. Fewer mature fibers in carded cottons indicated a selective removal of mature fibers during the processing. The extent of these changes was not the same for cottons of different inherent fiber properties. Measurements were made on individual fibers and on bundles of fibers, on unprocessed cotton taken from picker lap, and on processed cotton taken from the yarns.

The cellulose in cotton in relation to mechanical processing was studied through viscometric determinations carried out by an adaptation of the cuprietylamine method of measurement. In three sets of samples which had received different mill processing treatments, chemical changes in the cellulose could not be detected. Only in samples which had been subjected to excessive mechanical processing (powdered in a Wiley mill) was chemical damage evident.

These findings have been reported in two articles in the "Textile Research Journal." J. N. Grant, O. W. Morlier, and J. M. Scott reported effects of mechanical processing of cotton on the physical properties (October 1952), and C. M. Conrad and R. A. Rusca reported the viscometric studies of cellulose in cotton in relation to mechanical processing (March 1953).

from them, and the yarn becomes fuzzy as it pulls away from the cylinders and at the breaks on the lease rods.

The pieces of rubber can be a hazard to weaving if they break off the cylinder and go forward with the warp. The same is true of the build-up on the other slasher parts and can be more troublesome than hard size encountered in conventional slashing.

Loom Cleaning Essential. In weaving, the amount of shed with latex-sized warps has been no greater than with starch-sized warps. But the lint does adhere to the latex-sized warp more easily, necessitating frequent blowing-off of the loom and warp — sometimes as often as twice an hour. Although in preliminary runs the overhead traveling loom cleaner was not tried, it is thought that this equipment may greatly reduce the amount of manual blowing-off now required.

The blowing-off operation is not merely a housekeeping venture for the satisfaction of having a cleaner loom, but is actually essential. If the accumulated lint containing the latex goes forward, it is pressed into the surface of the cloth as it is wound on the loom. The lint patches must then be removed by hand.

How Latex Size Covers Yarn. The sizing of the warp with latex should not be confused with the finishing of textile fabrics by the coating method, e.g. raincoats and shower curtains. The latter is a process for treating the surface of woven cloth. Photomicrographs of latex-sized warp yarn show that the latex adheres to the yarn so as to appear spotty — the yarn is not completely enveloped by the latex, but is surrounded in a net-like structure. This may account for the improved abrasion resistance after several washings and ironings, the fact being that latex is further softened and distributed by the hot iron, and possibly a curing action takes place.*

Processing After Weaving. After weaving, denim may undergo the compressive shrinking process and then be handled by the usual cloth-room procedures. Since the latex-sized fabric is softer than denim processed by conventional methods, the less tension used in processing the better — to prevent stretching.

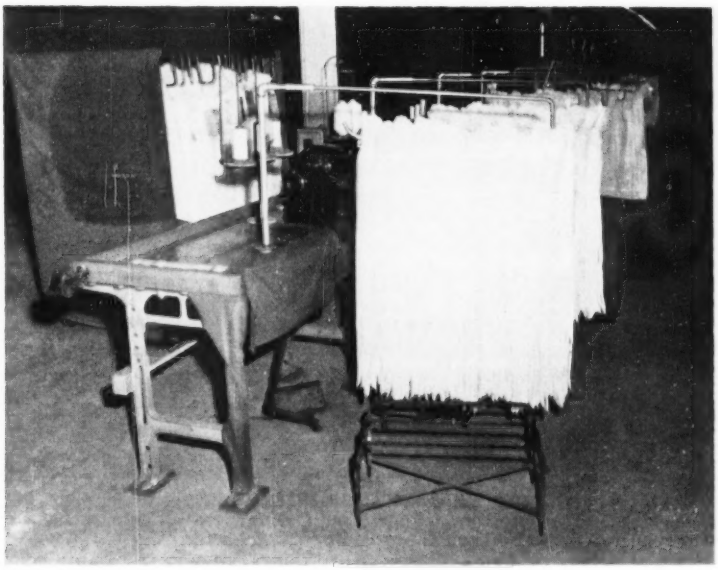
Cutters customarily handle much stiffer denim than latex-sized denim, so if stiffness is desirable, the goods may be after-treated in the usual manner with no ill effects.

Although the Hycar size finish has been tested on denim because the construction of the fabric made it particularly adaptable, opinion is that the application offers a permanent warp size finish that further opens the door to a broader field for loom finished fabrics, but at some increase in cost. A number of mills are experimenting with the latex size to determine its potential in their particular operations.

As one large manufacturer of denim put it, "We were skeptical of the reported tests at first, but we checked and found the facts accurate; we are now making production tests!"

At Southern Research Institute it is thought that the latex size finish is applicable to any cellulose type fiber, and work is proceeding with such investigations.

*Laboratory tests have indicated that denim cloth sized and woven in a conventional manner, then after-treated with nitrile latex, can be improved from the standpoint of color-retention, hand, and abrasion resistance. However, many denim mills are not equipped for the finishing operation, so from a practical standpoint tests were conducted to utilize existing equipment, e.g., the slasher.



Hosiery support rods are easy to build, don't cost much, simplify transfer from knitter to pre-setter to seamer.

Save labor with this system for

Handling Full-Fashioned Hosiery

By Henry Eason

EXCLUSIVE

WE STUDIED methods used by several hosiery mills before deciding on a simple system of handling full-fashioned hosiery from the knitters to the pre-setting process, and from the steam pre-setting process to the seamers. This method is inexpensive and is probably the most practical from the standpoint of saving labor and simplicity of operation.

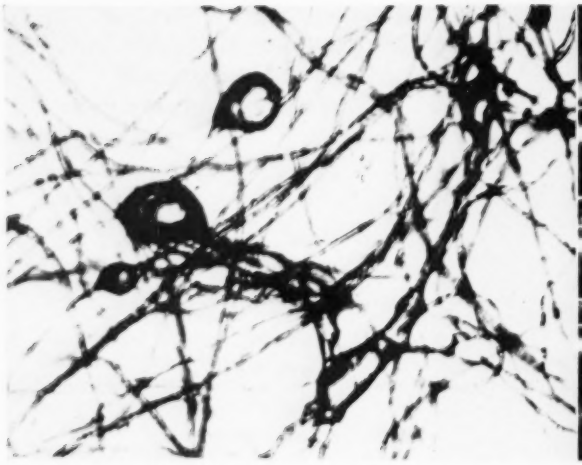
In designing the hosiery support rods, we avoided the usual dozens of hooks and screw-eyes found on a conventional hosiery support rod, and made the device shown in the accompanying illustration. The support is made of a single length of cold-rolled steel bent to a horizontal "U" shape. Overall length of the rod is five feet; the length of the top horizontal piece is 30 inches; the downward bend is 6 inches; and the return bend which actually supports the goods 24 inches with about 2 inches bent upward to prevent the hosiery from sliding off the end unless desired by the seamer.

The system works as follows: The knitter ties or loops a string around the welt of each dozen as it is knitted and hangs it on his work table until the end of the shift. The hooked end of the hosiery support rod is inserted through the looped strings on the dozens and the entire 8-hour production of each knitter is taken to a nearby truck where the top of the rod is inserted in holes drilled in the top rail of the truck. During this time after the dozens are tied the stockings are not touched by the hands which might cause picks. The truck load of hosiery is then rolled into a Lydon steam box where it is pre-set.

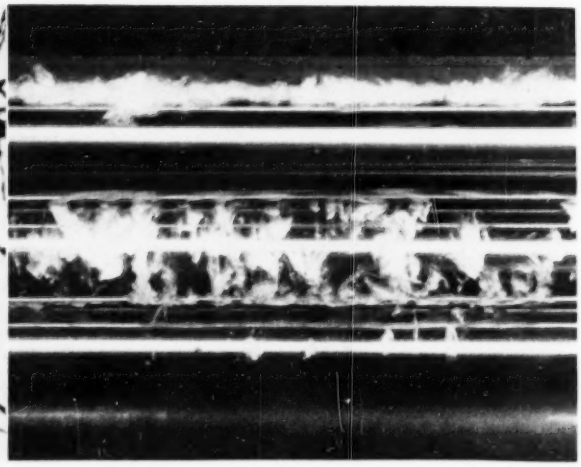
After pre-setting, the trucks are taken to the seaming room where the hosiery support rods, loaded with hosiery, are distributed to the seamers. The rod holders are made of ½-inch galvanized pipe and are fastened to the seaming table by means of a floor flange. Height of the pipe upright is 22 inches, and a 90 degree elbow and a 6-inch length of pipe of ½-inch diameter is attached.

The upper end of the hosiery support rods is inserted in the open end of the ½-inch pipe nipples as is illustrated. The seamer then slides the dozens off the open end of the lower section of rod when needed for seaming. The empty rods are replaced in the trucks and taken back to the knitting room for re-use by the knitters.

From the standpoint of minimum cost, ease of handling, simplicity of construction, and low maintenance cost due to rugged type of construction, we think that the system is superior.



CONTAMINATED COTTON is shown in this photomicrograph. No liquid was used to mount these fibers on the slide. Notice that deposits appear as small droplets on the exterior of the fibers.



PICKER CALENDER ROLLS after processing cotton contaminated with honeydew. Stickiness has also been observed on card calender rolls, but most is encountered in drawing process.

Cotton sticking to machine parts? Try this

Rapid Test for Honeydew?

By **EDWIN J. JENNINGS***
Anderson, Clayton & Co., Inc.

COTTON contaminated with honeydew, the term that has been applied to the secretion of plant lice or aphids, is a problem to mill operators. Being hygroscopic in nature, the honeydew absorbs moisture when exposed to the relatively high humidity of a mill and becomes gummy so that subsequent processing of the stock results in the sticking of this cotton to various machine parts.

It not only takes many manhours to coax this contaminated cotton through a mill, but the resulting yarn is poor in appearance and strength due to the nonuniformity resulting from the many lap-ups in the various machine parts.

Rapid Detection Method Needed. The seriousness of the honeydew problem is largely due to the fact that its presence is not realized until the cotton is being processed in a mill and the trouble has already begun. A rapid, yet accurate, method of detecting contaminated cotton before being processed is needed in order to obviate mill difficulties.

If these bales could be detected, it would be a great advantage to a mill operator as he could blend this honeydew cotton with uncontaminated cotton in a proportion that experience has shown to be satisfactory, or he could divert it into a raw stock dyeing process where the water-soluble honeydew would be removed, or he could reduce the relative humidity in the mill where processing difficulties had been encountered.

It has been suggested that honeydew cotton be left in a humid atmosphere in order to allow mold to consume the honeydew; however, this is not always practical as the space and time required may be prohibitive.

Test Developed. In the ACCO Fiber & Spinning Laboratory a test for honeydew has been developed that is run on the cotton itself and does not require an extraction with water. Due to the infrequency of honeydew samples, this procedure has not been used many times; but it is offered as a proposed test for the detection of honeydew on raw cotton.

The cotton suspected of being

*Abstract of paper entitled "Another Look at Honeydew" which was presented at the Sixth Annual Cotton Merchandising Clinic in Austin, Texas. Study serving as basis for paper was made in the ACCO Fiber & Spinning Laboratory, Anderson, Clayton & Co., Houston, Texas, under the direction of Earl E. Berkley.

contaminated with honeydew is first sprayed with Benedict's solution, covering the surface with a thin film. This solution is then heated with a small amount of steam, causing the honeydew to reduce the cupric ions. If the cotton is heavily contaminated, orange spots may be seen against the light blue background.

With only a trace of honeydew, however, these spots are difficult to see; hence, the color difference is accentuated by spraying with phosphomolybdic acid. This colorless reagent reacts with Benedict's solution to give a colorless solution; therefore, the uncontaminated areas of the cotton appear colorless. If an insufficient amount of phosphomolybdic acid is sprayed on the sample, the uncontaminated areas will remain a light blue, the color of Benedict's solution.

The phosphomolybdic acid reacts with small amounts of cuprous oxide, formed by the honeydew, producing an intense, deep blue color that is easily distinguished from the light blue color of Benedict's solution. It seems that this test does not give a positive reaction unless there is some reducing material, such as honeydew, on the surface of the cotton fibers; in other words, sugars present in the lumen give a negative test.

Five samples of cotton that were being spun as a blend by a mill were received in the laboratory; these provided a basis on which to ascertain the value of the proposed test as outlined. The mill had had considerable difficulty with this blend and suspected the presence of honeydew. Each sample was spun separately in the laboratory. Samples A and B gave a great amount of trouble, Sample C gave less, and no trouble was experienced with Samples D and E.

First, they were examined in a darkroom under ultra-violet light, using a General Electric Purple-X bulb as the source. Figure 1 shows how Sample B appeared under ordinary incandescent lighting, and Figure 2 shows how the same cotton appeared under the ultra-violet light.

All five cottons contained spots of intense yellow fluorescence. Some of these spots were removed from each sample. Upon examination, the spots from Samples A, B,

FIG. 1. How Sample B appeared under ordinary incandescent lighting.

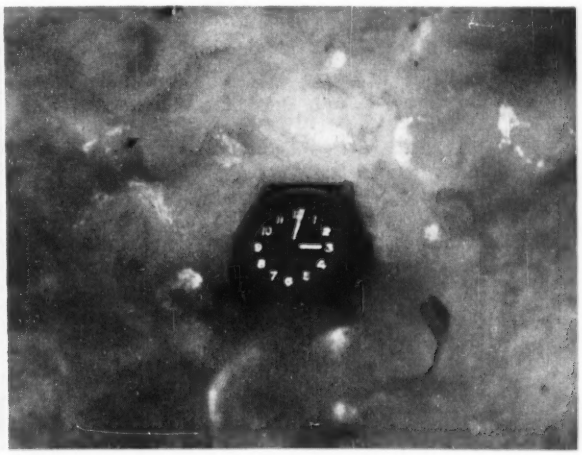


FIG. 2. How the same cotton appeared under the ultra-violet light.

FIG. 3. Graphic presentation of results of quantitative analysis of samples from all five cottons for sugar content of fluorescent spots and those that did not fluoresce.

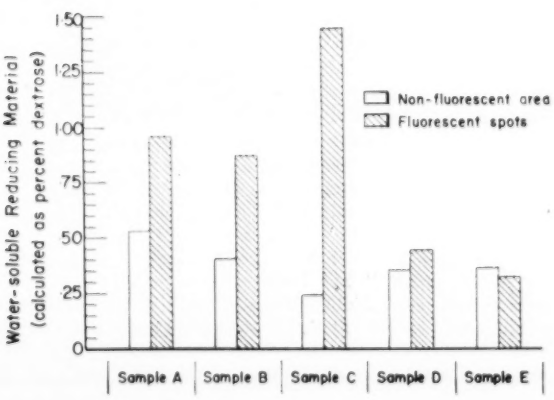
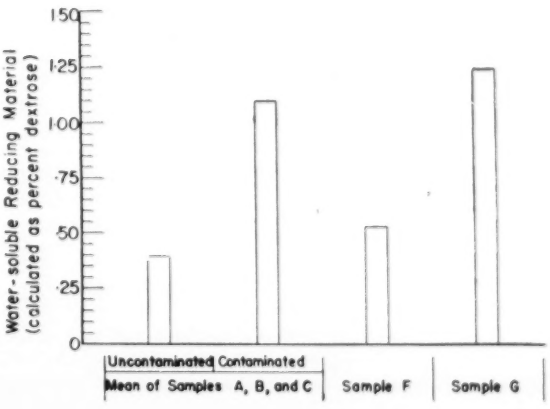


FIG. 4. Average sugar content of two very immature cottons that neither fluoresced nor gave trouble in processing. Sample F was a spotted cotton; Sample G a yellow-stained cotton.



and C felt sticky or crusty, whereas those from Samples D and E did not. The fluorescent spots were quantitatively analyzed for sugar content along with a portion of each sample that did not fluoresce. These results are graphically presented in Figure 3.

Notice that for Samples A, B, and C, the sugar content of the fluorescent spots was much greater than that of the non-fluorescent lint, whereas the sugar content of the fluorescent spots for Samples D and E was practically the same as that of the non-fluorescent cotton. From these data it would have been simple to predict which three of the five samples would give trouble in processing—namely, Samples A, B, and C.

A portion containing some fluorescent spots was then selected from each sample and treated as out-

Detailed Procedure of The Proposed Acco Test For Honeydew

Preparation of Reagents. To make Benedict's solution: With the aid of heat, dissolve 173 gm of sodium citrate and 100 gm of anhydrous sodium carbonate in 800 ml of distilled water. Filter, if necessary, and dilute to 850 ml. Dissolve 17.3 gm of crystallized copper sulfate ($CuSO_4 \cdot 5H_2O$) in 100 ml of distilled water. Pour the latter solution, with constant stirring, into the carbonate-citrate solution, and make up to one liter.

Phosphomolybdic acid is prepared as follows: Place 35 gm of molybdic acid in a liter beaker. Add 200 ml of 10% sodium hydroxide solution and 200 ml distilled water. Boil vigorously for 40 minutes. Cool and dilute to about 350 ml and add 125 ml of 85% phosphoric acid. Dilute to 500 ml and mix well.

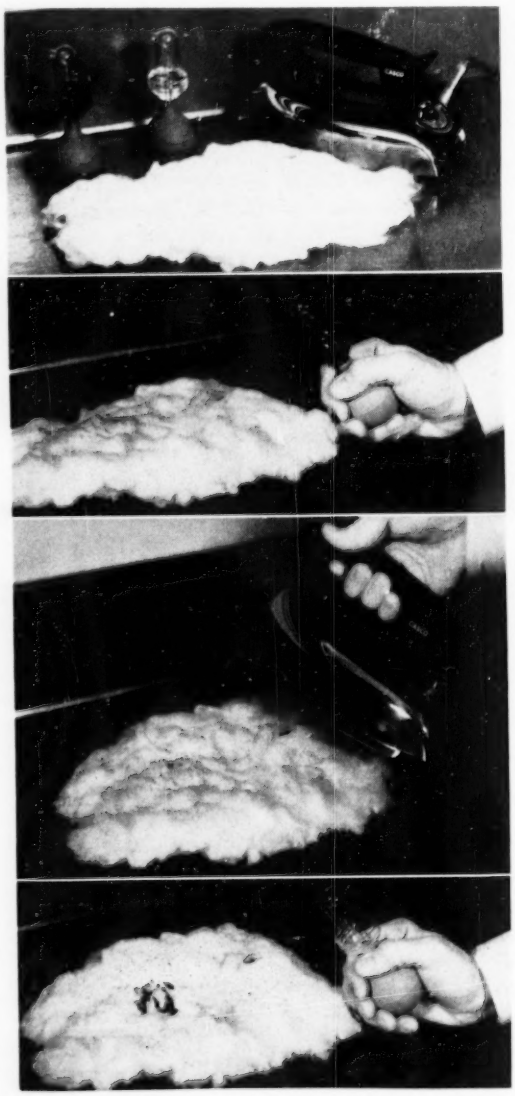
Procedure. The sample of raw cotton to be tested is first sprayed with Benedict's solution covering the surface with a thin film. This solution is then heated with a small amount of steam. A convenient source of steam may be obtained from a steam iron, with the temperature control knob set on the highest mark. The iron is held about 1 inch above the cotton and slowly moved over the sprayed area so that the iron remains over any particular point about 20 seconds. (Care must be taken not to scorch the cotton as this will result in a positive reaction.) If the cotton is heavily contaminated with honeydew, orange spots may be seen against the light blue background.

The surface is then sprayed with phosphomolybdic acid using a *glass* atomizer. An atomizer containing any metallic part can not be used as this reagent reacts with metal. For best results, it is recommended that the same type atomizer be used for spraying both reagents in order that the droplets will be approximately the same size. If a source of compressed air is available, it may be used to facilitate the spraying operations.

The phosphomolybdic acid, which is colorless, will react with Benedict's solution to give a colorless solution; therefore, uncontaminated areas will appear colorless. If an insufficient amount of acid is sprayed on the sample, the uncontaminated areas will remain a light blue, the color of Benedict's solution. The phosphomolybdic acid will react with small amounts of cuprous oxide, formed by any honeydew originally present, producing an intense, deep blue color that is easily distinguished from the light blue color of Benedict's solution.

A few crystals of dextrose may be placed on a sample and this cotton treated as outlined above in order to observe the characteristic color developed in a positive reaction.

The photos at the right, from top to bottom, show: First, a sample of cotton to be tested, a steam iron, and the two reagents in identical glass atomizers. This particular type of atomizer is sold by drug stores to apply hair lacquer. Second, the sample after spraying with Benedict's solution. Third, sample being heated with steam. Fourth, the sample after it has been sprayed with phosphomolybdic acid. Notice the dark spot developed by the acid, indicating the presence of honeydew.



lined in the proposed test. A deep, intense blue color developed at the location of the fluorescent spots on Samples A, B, and C; however, no color developed on Samples D and E. It seems, therefore, that the proposed test could have been used to forecast the processing difficulties just as the quantitative data of Figure 3.

The advantages over a quantitative sugar determination (of contaminated and uncontaminated areas from the same sample) are that the new test is much faster, requires less equipment, is simpler to perform, and the contaminated areas do not have to be segregated.

Figure 4 shows the average sugar content of two very immature cottons that neither fluoresced nor gave trouble in processing. Sample F was a spotted cotton having a maturity of 34% (18% sodium hydroxide method), and its Micronaire reading was below the scale. Sample G was a yellow-stained cotton and had a maturity of 45% and a Micronaire reading of 2.4 (curvilinear scale). Neither of these samples gave a positive reaction with the proposed test. Notice that the sugar content of the spotted Sample F was slightly higher than the mean of the uncontaminated areas for Samples A, B, and C; yet the sugar content of the stained Sample G was greater than the mean of the contaminated areas. These data corroborate the author's opinion that the average sugar content can be deceptive.

This characteristic yellow fluorescence under ultra-violet light has been observed frequently. Some of the fluorescent spots have had a lower and some have had a higher sugar content than non-fluorescent areas of the same sample. A possible explanation of this is that the honeydew as originally deposited on the cotton fiber does not fluoresce. Under favorable conditions mold, which does fluoresce, could form on the honeydew while the sugar content was still higher than the surrounding area. After the mold had consumed all the sugar in the honeydew, the sugar content of this area would be approximately normal; yet the mold would continue to fluoresce. The mold could then consume the naturally occurring sugars of the cotton fibers, thereby producing a fluorescent spot with a subnormal sugar content.

It is anticipated that the ultra-violet light will be used to select portions from fluorescent samples that are to be treated according to the proposed test in order to reduce the amount of cotton so subjected, as the treated cotton must be discarded. For cotton that does not fluoresce but is suspected of being contaminated with honeydew, a much larger and more representative area must be treated.

YOUR 1953 INDEX of articles appearing in "Textile Industries" is loosely bound in this issue. File it now for use later.

Here Are Today's Laundry Problems

Textile laundry problems encountered by the laundry industry today are:

(1) Chlorine retention by resin treated fabrics, resulting in discoloration of fabric and weakening to point where fabric falls apart.

(2) Soiling of white nylon and Dacron, resulting in dark areas on the collar fold line and cuffs of white shirts. These areas cannot be whitened by any laundering method used at present, and it is believed that the soil is caused by oils in human perspiration and possibly carbon particles in the air around industrial areas.

(3) Fires caused from rubber padded articles.

(4) Fused and shrunk dynel hosiery.

(5) Corrosive damage caused by improper use of household chemicals, cleaners, and bleaches. Also, the improper use of anti-perspirants and spillage of medicine causes corrosion.

This was the opinion of a panel of technicians of the American Institute of Laundering who answered questions submitted by some 130 members of the American Association of Textile Chemists and Colorists who visited the Institute the day before the Association's 32nd national convention in Chicago last September.

Other questions posed by the AATCC members and answered by the AIL panel were:

Q. Is there a standard washing formula in the laundry industry?

A. Impossible because (1) laundries do not deal with standard products, supplies or machinery and (2) washing procedures used in each must be adjusted so as to bring about adequate soil removal on the soiled garments brought to that particular plant.

Q. Is any attempt made to separate garments according to kinds of fiber?

A. Yes. Wool garments must be separated from cotton. Generally garments and fabrics of man-made fibers are handled separately; however, no attempt is made to separate these into individual fiber classifications.

Q. Does the sour generally used in commercial laundries tend to remove most crease-resistant finishes?

A. Quite possible that it does help but sudsing operation and mechanical action involved in washing have a greater tendency to remove them than would the sour. Sour solutions used seldom go below pH of 5, thus are harmless to textiles.

Q. In laundry operations what loss of strength is considered acceptable, and what is the usual range found?

A. A maximum of 10% is an acceptable strength loss after 20 launderings. Garments wear out sooner from use and wear than from laundering. Usual range of strength loss averages about 9% in 20 launderings.

Q. Do you know any way of keeping nylon fabric white in washing?

A. It tends to pick up small amounts of color that bleed off other fabrics in the wash, so wash nylon fabric separately at temperature around 100 F.

Research at this mill developed

A Tool That Makes Dyeing

By R. H. Souther*
Research Director
Cone Mills Corp.

EXCLUSIVE

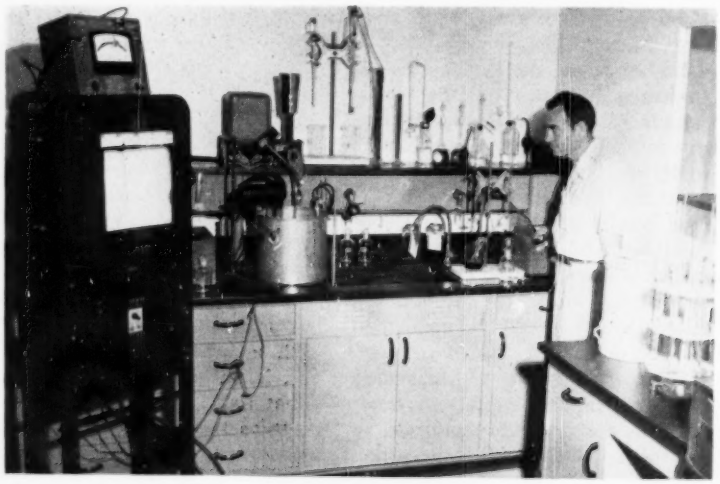
SINCE 1943, Cone Mills' dyehouses have been using a laboratory-developed method to produce even shades, lot after lot, day after day, year in and year out. This method, the Con-Mil Method, uses an electronic instrument to measure the condition of the dyebath, that is, to tell the dyer whether the dyebath has the correct ratio of dye, reducing agent, and stabilizing agent to produce the desired shade.

The instrument records on a chart a numerical value, the reduction potential, which shows the dyer the exact state of the dyebath at any time during the dyeing process; and it enables him to make a new dyebath of the same ratio of vat dye and hydrosulfite, or of sulfur dye and sodium sulfide.

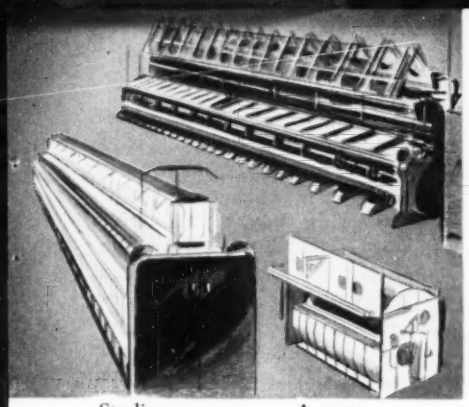
A vat color is an organic pigment which, although insoluble in all solvents usually employed in dyeing and printing, is capable of yielding a soluble compound when treated with alkaline reducing agents, and, in this soluble form, can be absorbed by textile fibers. It is subsequently reoxidized by the oxygen in the air to its original color and state of insolubility, thus producing a fast dye on the fiber.

Reducing agents, broadly speaking, may be defined as substances which more or less readily withdraw combined oxygen from or add hydrogen to other substances. One of the most common reducing agents, or hydrogen-producing compounds, used for vat dyeing is sodium hydrosulfite. To obtain level, uniform dyeing with vat colors, an excess of the hydrosulfite must be present to insure solubilizing the dye so that the fibers can absorb it.

Before development of the Con-Mil Method, determinations of the reduction state of the dyebath were made by chemical titration or by the Vatometer method. The chemical titration method involves adding to a sample of dye liquor taken from the dyebath a chemical of known strength until a color change takes place in an indicator added to the sample. The amount



*Portions of this paper are based on Cone Mills Laboratory Technical Bulletin No. 15, January 30, 1948.



Studies Assays

The eleventh article of a series dealing with research work and the practical application of research findings in the mill.

Easier

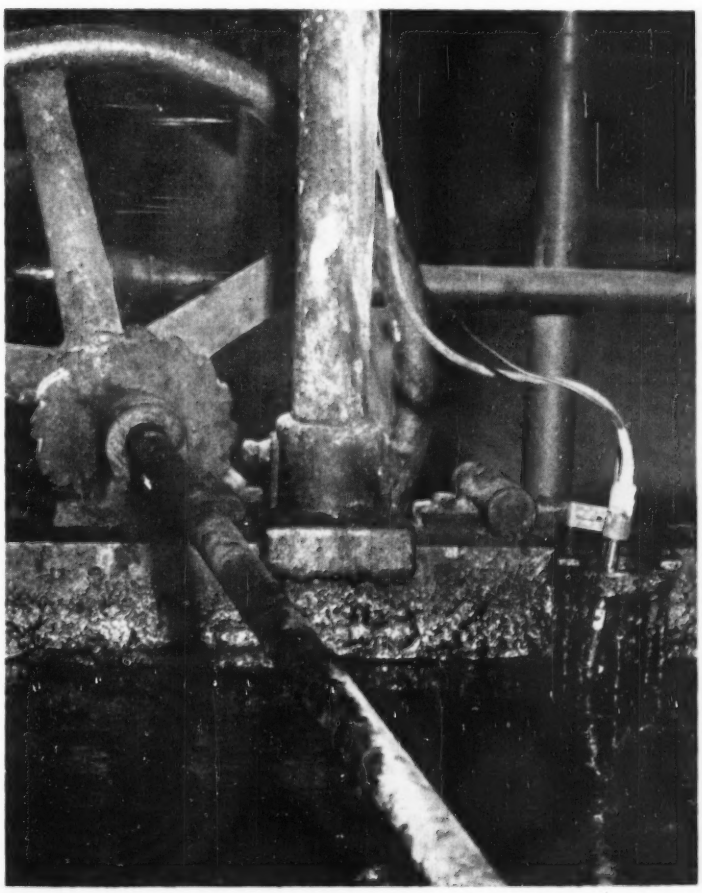
of hydrosulfite present is then calculated from the amount of chemical required to produce the color change. It can readily be seen that this method is impossible to use in the case of heavy dye shades, such as indigo or other dark colors, because the color of the dye present in the sample masks the color of the indicator.

The Vatometer method was used for indigo and other dark colors. A sample of liquor from the dye vat is placed in a small glass container called a Vatometer, and the sample shaken to release the hydrogen present in the dye liquor. The amount of hydrogen present is measured by the amount of water it displaces in a tube attached to the Vatometer. Extreme care must be taken to maintain the right temperature and to prevent any air from reaching the sample being tested. This method is tedious and time-consuming. In the time required to determine the condition of the vat, it could be completely depleted of available hydrogen and hundreds of yards of off-shade material produced.

Other methods, such as dipping a glass plate or filter paper into the dye solution and observing the color of the reduced dye are also used. The objections to this method are obvious—no really satisfactory evaluation can be made by personal observation and interpretation alone.

About 1940, when a war-time shortage of hydrosulfite developed, considerable experimental work was done on the reducing sugars, particularly glucose, corn sugar, the high reducing dextrins, and even molasses, in efforts to find an acceptable substitute for hydrosulfite in the dyeing of indigo and other vat dyes. Although progress was made with a few colors, reduction values were found difficult to determine by the usual methods.

Research Paid Off. In the fall of 1941, a new tool of research, one that could be used in evaluating the efficiencies of these various reducing agents, was developed by the staff of Cone Mills



RESEARCH MODEL of feed control device (center of photo) being developed for attachment to redox instrument for automatic feeding of reducing and oxidizing agents to dyebaths and other processing solutions, as demanded by electrodes. Conducting experiment is J. Melvin Fields. A recording potentiometer makes continuous record of reduction potential of the vat dyebath. The condition of as many as six dyebaths may be recorded on one chart; the instrument will record a reading from each bath in sequence.

ELECTRODES immersed in dyebath continuously transmit to the recorder information on the reduction potential of the dyebath.

Use this Checklist to Extend Industrial Truck Battery Life

It's easy to add extra life to electric industrial truck storage batteries by setting up a "checklist" of preventive maintenance.

Charles H. Greener, general service manager of the Automatic Transportation Company, manufacturer of electric driven industrial trucks, says that batteries can last longer and purchases of new batteries can be reduced by following these eleven precautions:

(1) Keep filler caps closed except when open for filling.

(2) Keep batteries clean and dry externally.

(3) Keep electrolyte at proper level at all times.

(4) Keep batteries on a suitable charging schedule.

(5) Don't connect an ammeter across the battery terminals to test connections.

(6) Don't leave the battery in a discharged condition.

(7) Don't bring an open flame close to a charged battery or battery vents.

(8) Don't permit a battery to overheat during charging.

(9) Don't add water to acid; add the acid to the water.

(10) Don't lay tools or pieces of metal on a battery.

(11) Don't overfill cells.

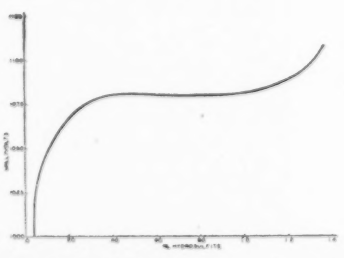
Laboratory. Special investigations were carried out by J. M. Fields and the writer on corn sugar, glucose, and hydrosulfite as reducing agents on indigo in caustic solutions and evaluated for relative reducing power and stability to heat, by measuring the reduction potential with an electrometer equipped with calomel half cell-gold electrodes. Preliminary results gave promise that with this new tool dyeing results might be better evaluated and understood, paving the way for achievements never before attained in efficient and economical vat dyeings.

Practical Mill Uses. After further experimentation, a continuous recording and controlling instrument was developed and put into use in the Cone Mills dyehouses by C. M. May and J. E. Armfield in 1943. This instrument shows the condition of the dyebath continuously by recording the reduction potential in millivolts, and so affords an excellent control in maintaining a constant reducing value in the vat through feeding hydrosulfite and caustic as demanded by the electrodes.

Further research showed that this new technique can be used by the mill to check the strength of stock hydrosulfite solutions and stock dye liquors. It has also been used to determine the ratio of zinc dust, sulfur dioxide, and alkali to mix in making the most stable and efficient hydrosulfite solutions for dyeing indigo. This method of evaluation can be used in any vat dyeing operation, in bleaching, and to a limited extent in sulfur dyeing.

It was found in experiments by the Con-Mil Method that the millivolt potential of indigo vats may range from 720 to 850 millivolts. A higher reading than the above arbitrary range tends to make the shade lighter and greener; a lower reading, heavier and redder. It should be emphasized that the instrument only indirectly gives an indication of dye concentration, through depletion of the reducing agent; and therefore is not a substitute for, but an aid to the dyer's judgment in matching shades. He must still determine the exact reading to maintain for a desired shade.

The principal use for the Con-Mil Method has been in determining and controlling the amount of hydrosulfite adequate for proper reduction of a particular shade, thus avoiding use of excessive hydrosulfite and so reducing waste of dye and chemicals. No method for continuous metering of hydrosulfite and caustic to the dyebath to maintain a constant millivolt reading automatically has been found practical in the plant, although it has been done in the laboratory. However, research to that end is continuing.



REDOX VALUES obtained with various amounts of hydrosulfite in Williams Unit, vat pigment pad process.

The accompanying redox titration curve was obtained by varying amounts of hydrosulfite in the Williams Unit, vat pigment pad process. The chart shows that as little as 0.45% hydrosulfite is adequate for proper reduction of this shade, with no increase in reduction efficiency when more hydrosulfite is used. Before this type of evaluation was available, three times as much hydrosulfite was used in this process. Similarly, in sulfur dyeing, results obtained by the Con-Mil Method indicated that one-third to one-half of the sulfides could be cut out of the exhaust dye liquor at the end of the dyeing cycle on a sulfur black shade.

This new tool of research has also been used in investigating the dye waste itself. By the use of this process, studies can be made to determine the amount of chemicals needed in neutralizing or coagulating the waste.

Value to Industry. The Con-Mil Method for evaluating and controlling vat and sulfur dyeing, bleaching, and kiering has proved itself not only an invaluable aid to research but also an efficient, economical, and practical production tool.

Results obtained by our plants and laboratory have shown that by means of the Con-Mil Vat Control Method it is possible to simplify testing and checking of the dyeing process, to avoid unnecessary waste of dyestuffs, and to effect savings by using less chemicals for textile processing, to curb stream pollution by reducing the amount of wastes emptied into streams, to reduce the cost of treating textile wastes, and above all to maintain a constantly high quality product.

Northern North Carolina-Virginia STA Meet in Danville

Here's What They Discussed

- Super-Jet
- Carding Dacron and nylon
- Continuous strippers
- Set-Back laps
- Static control
- Dust in the card room
- Spinning frame cleaning
- Back scavenger rolls
- Sloughing
- Wet split
- Rubber-covered squeeze rolls
- Warp stop motions
- Mispicks

Staff Report

REPRESENTATIVES of mills operating well over a million spindles were in attendance as the Northern North Carolina-Virginia Division of the Southern Textile Association met at Hylton Hall, Danville, Va., on September 19. Following a paper by John H. McCormick of Union Carbide and Carbon Corp., on the characteristics and processing of Dynel staple, the meeting was divided into several discussion groups.

The carding group was headed by E. W. Crow, P. H. Hanes Knitting Co., Winston-Salem, N. C.; C. W. Howell, Erwin Mills, Inc., Cooleemee, N. C., led the spinning discussion; A. E. Abrams, Erlanger Mills, Inc., Lexington, N. C., guided the forum on slashing; and the weaving group had Louis Kuepferle, Cone Mills Corp., Greensboro, N. C., as chairman.

Super-Jet. One mill responded to a call for discussion of Super-Jet cleaning equipment. This mill had replaced a vertical opener and lattice opener with a Super-Jet.

Results obtained were good. Neps were reduced, and card production was increased about 1½ pounds per hour. Considerable short staple is removed by the Super-Jet, according to this mill.

Set-Back Laps. Three mills replied to a question on the control of set-back laps. One uses Toledo Printweight scales; another uses a different color of chalk mark and spot-checks the laps; a third mill has an automatic rejector in the conveyor line.

Dacron and Nylon. One mill reported on carding Dacron and nylon. With Dacron, it was necessary to change the tension between the doffer and calender roll, and to place a pan under the web to support it.

The same mill found that nylon caused the card to load too much for practical processing under normal carding conditions.

Continuous Strippers. A question on the needle life of continuous strippers brought the comment from a mill man that 11,000 to 13,000 hours was average at the mill he represented.

Another mill using continuous strippers reported that it strips with the roll every three hours; a second mill strips every eight hours.

A third mill grinds cards equipped with continuous strippers every three months. Flats are kept sharp and plates set carefully.

Still another mill reported trouble with "snow-balls" on continuous stripper-equipped cards. No solution has been found.

Static Control. Static control is accomplished at one mill with a static arrestor. A static reducing spray was found successful at another mill, and a third mill oils its cotton to reduce static.

Methods Suggested to Reduce Dust in the Card Room

Mill A: Use a pre-cleaner.
Mill B: Oil the cotton.
Mill C: Use an air-washer unit.
Mill D: Increase size hole in the No. 11 screen to 3/16".
Mill E: Increase the humidity.

Spinning Frame Cleaning. Asked how often the top rolls and steel rolls were cleaned on 30s/1 combed yarn, one mill reported that they were cleaned every 16 hours with a mechanical picker.

The cleaning cycle at another mill is 48 hours for the front line, 72 hours for the back and middle lines.

Overhead blowing-down is done once a week at a mill with overhead cleaners.

Back Scavenger Rolls. A mill using back scavenger rolls does so because they keep the aprons and back steel rolls cleaner. A disadvantage is the rolls feed waste into the roving when they are dirty. This mill cleans back scavenger rolls every 144 hours. The back scavenger roll is considered necessary where there is no top flat clearer.

Sloughing. One mill reported trouble with sloughing at the Barber-Colman spooler when combination wind was used in spinning.

A suggestion made to correct this was to change the direction (chase) of the ringrail. Doffing with the ringrail half way down helps to take out some of the kinks.

Wet Split. Several members reported that they were using or had tried wet split at the slasher. Results varied from good to poor. The

New Officers of N.N.C.-Va. Division, STA

Chairman: M. A. Carpenter, Erwin Mills, Inc., Cooleemee, N. C.

Vice-Chairman: C. H. Ward, Highland Cotton Mills, Inc., High Point, N. C.

Secretary: Howard Barton, Fieldcrest Mills, Spray, N. C.

Assistant Secretary: H. W. Buchanan, Erlanger Mills, Lexington, N. C.

principal objection is that the rolls accumulate size, which abrades the yarn.

Wet split was said by one mill man to work well on the main split rod, but to leave considerable strain on the small rods.

Another member had tried rolls moving in the opposite direction to that of the yarn, as well as in the same direction. He also tried two rolls moving at different speeds. The rolls still picked up size in every case.

Rubber-Covered Squeeze Rolls. One member has successfully run rubber rolls at the back of the slasher for some time, and is now putting them on the front or dress roll.

No difference in size pick-up has been noticed, and the size formula has not been changed. The roll weight is 600 pounds.

Warp Stop Motions. Mills using both electrical and mechanical warp stop motions were represented. One mill using both types found that a weaver can not run as many looms equipped with the electrical stop motion as with the mechanical.

Another mill had experimented with copper and alloy drop wires, but found nothing to recommend one above the other. A third mill representative commented that the weight of the drop wire is more important than its composition. The problem is to get the proper weight of drop wire for the fabric being woven.

How to Reduce Mispicks

Mill A: Have the proper bunch on the bobbin. A flat bunch is preferable to a round bunch.

Mill B: Check filling stop motions at regular intervals.

Mill C: Check that shuttle spring on new shuttles lines up with the eye.

Mill D: Check all new quills for straightness. Recheck periodically. Steam conditioning of filling damages quills.

Mill E: Dress shuttles twice a week with shellac mixed with oil or alcohol.

Mill F: Establish definite tolerances for groove depth, springs, settings, etc.

This Industry Has Had Its Share of Strikes

Efforts to secure union recognition and to improve wages and working conditions in the textile industries have been marked by long and widespread strikes. In most of the years from 1927 to the early 1940's, when the unions vigorously pressed organization efforts and wage demands in the face of determined employer opposition, work stoppages accounted for proportionately more idleness in the textile industries than in industry as a whole.

Most of the early stoppages did not succeed in achieving their immediate objectives, which frequently involved efforts to obtain union recognition or to resist deductions in wages or changes in other working conditions.

In 1952, the bulk of the northern textile operatives were organized. However, despite organizing drives during the past few years in the South, only a small proportion of the operatives were unionized.

Strike activity and organization dropped considerably in 1920; but on June 1, 1921, the walkout of some 9,000 operatives in 9 towns resulted in the largest southern cotton-textile strike up to that time. The UTW had taken strike action partly to help its fight against wage cuts in the North. Within three months, the strike terminated in defeat for the employees. As a result of this loss, the UTW virtually disappeared from the South until 1929.

In April 1929, some 1,100 operatives at a mill in Gastonia, N. C., struck for several weeks, demanding a $20.00 weekly minimum wage, shorter hours, union recognition, and improved working conditions. The union involved was the Communist - controlled National Textile Workers (Ind.).

Ending the battles in this period was a strike at another southern plant involving some 4,000 members of UTW. The operatives returned after 6 months without gaining any of the immediate objectives for which they had struck.

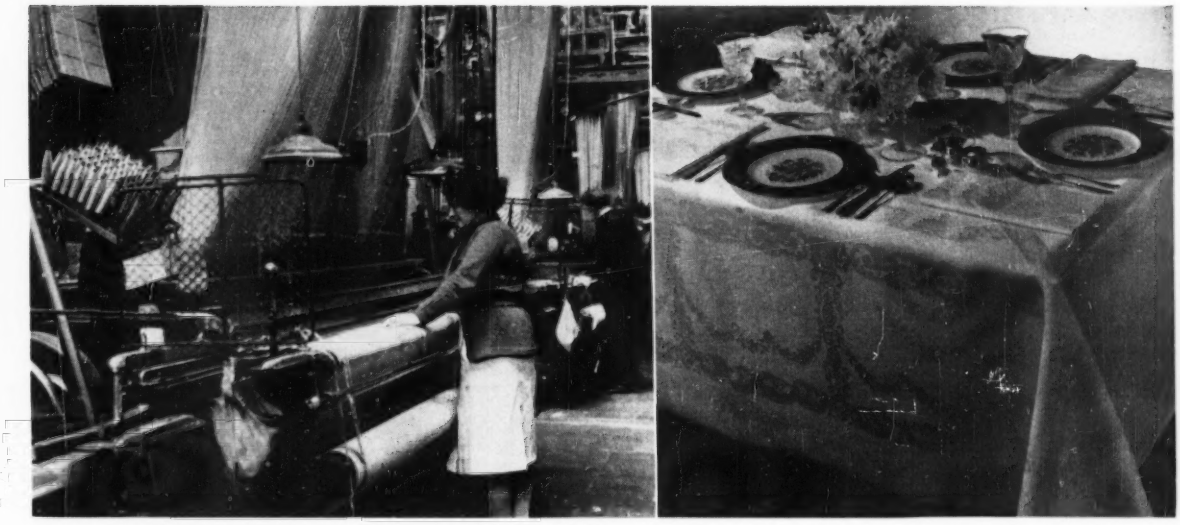
In terms of the number of operatives involved and the man-days of idleness, the year 1934 saw the greatest textile strike activity of any year of the past quarter century.

The 1937-38 recession, coupled with difficulties in penetrating textile centers that had long resisted union organization, on the one hand, and the comparatively stable position of the union in other areas, on the other, served to dampen strike pressures for the next few years.

Strike activity increased in 1941 and during the early war years and the postwar year 1946. Thereafter the frequency and severity of textile strikes declined until 1950-51, when inflationary pressures generated by the Korean outbreak led to demands for increased wages and supplementary wage benefits.

On February 16, 1951, some 48,000 workers in woolen and worsted mills in 11 eastern states were idle over wage and related issues. A strike in cotton and rayon mills in seven southern states began in April and lasted about 4 months. It ended when most of the operatives returned to work without formal settlement.

From article "History of Work Stoppages in Textile Industries," by Bernard Yabroff and Ann J. Herlihy, in the "Monthly Labor Review" for April, 1953, published by United States Department of Labor, Bureau of Labor Statistics.



LOOMS in Northern Ireland weaving famous Belfast damask. Right, white linen table-cloth and napkins.

Research and Advertising pay off for

Linen in Ireland

THE USEFULNESS of flax has been known for 10,000 years or more, and it has been cultivated in the United Kingdom for centuries. In the past hundred years, the industry has in Britain become localized in Northern Ireland and Scotland.

Northern Ireland now has a greater flax spinning and linen weaving capacity than any other country except Russia, and dominates world trade in linen. That alone would make linen an important factor in Britain's economy, especially since Irish linen is particularly popular in North America and other desirable markets.

Again, the value of the industry is enhanced by the fact that part of the raw material used is produced at home; when necessary Britain can become nearly self-supporting for its flax requirements.

A Reserve For Expansion. In northern Ireland between 20,000 and 25,000 acres of flax are grown every year, and 15,000 acres can generally be counted on from the rest of Ireland. England grows about 16,000 acres, a particularly valuable contribution since the seed (all of pedigree strains) is saved, serving Northern Irish needs and creating the reserve on which any expansion would be based. Thus, nearly $7 million in foreign currency are saved each year on the imported raw materials.

Research and Advertising. Two of the most important contributions to the maintenance of Northern Ireland's supremacy in international trade in flax products are the sustained campaign of co-operative technological research carried out for the past 32 years and co-operative advertising in the U.S.A. on a major scale. Ireland's flax products include linen fabrics, flax yarns, linen thread, fishing lines, and gilling nets.

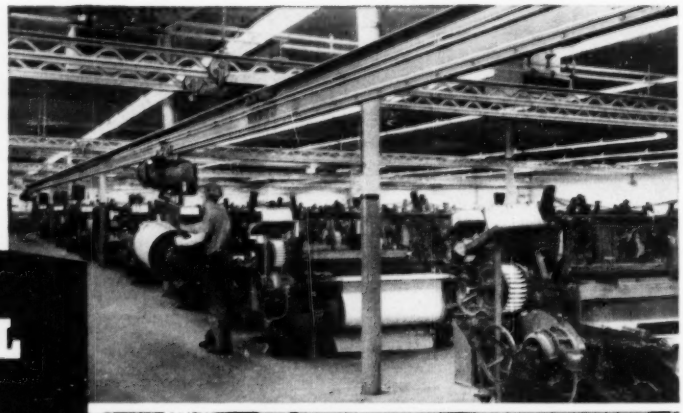
The linen trade was one of the first United Kingdom industries to determine that individual research carried out by private firms should be supplemented by co-operative research. At Lambeg, near Belfast, the industry set up a superbly equipped and well-staffed Institute which has done much to raise and standardize the quality of linen and to reduce production costs.

Every problem of the industry is attacked, from the breeding of flax and combatting of flax dis-

EXCLUSIVE

By William Carter
Editor, Linen Trade Circular and Textile Quarterly (Belfast)

USE MONORAIL CRANES



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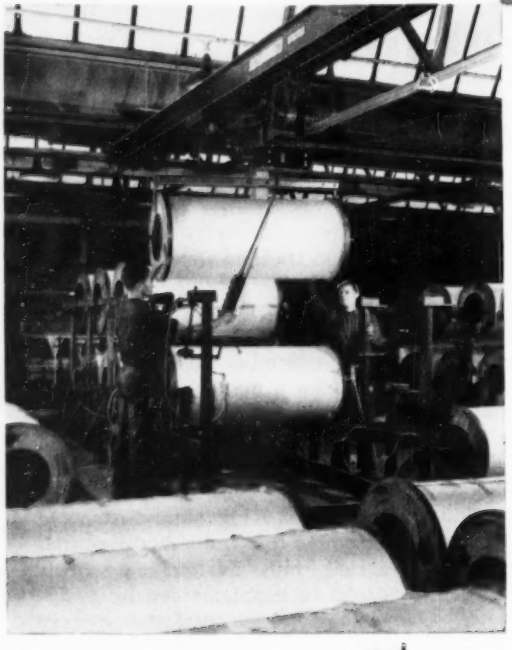

These are just a few reasons why American MonoRail Cranes are gaining in popularity and are being installed in increasing numbers of plants the country over. Call in your American MonoRail representative and have him tell you all the advantages of MonoRail Cranes such as—ease of handling—smooth travel—strength—safety interlocks—power operation and **interlocking carrier service between and beyond the craneways.** Consultation in connection with any handling problem is available without obligation.

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AMERICAN OVERHEAD HANDLING EQUIPMENT

MONORAIL COMPANY

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eases right through to imparting new finishes to the woven fabric.

Some of the notable results have been the evolution of strains of flaxseed which give improved yields of fiber, with better spinning qualities and resistance to "lodging" and disease, methods of assessing and therefore preventing degradation of the cellulose during bleaching, satisfactory methods of giving linen crease-resisting qualities, and improvements to dyeing techniques.

In literally hundreds of ways the industry has been helped by research to give the consumer better linen at a lower price.

Machines A Secondary Industry. The fertility of invention shown by those associated with the linen trade in the United Kingdom has also helped to keep the industry ahead of competitors and has created a secondary industry important to Northern Ireland—the manufacture of textile machinery for all of the long vegetable fibers which have a kinship with flax. Nearly every advance in flax-spinning machinery design has emanated from Belfast. The automatic hackling machine, the patent pushbar drawing frame, the roving frame differential, and in recent years improved types of wet ring spinning frames have come from Belfast.

The price factor is important, for Northern Ireland linen is not an unattainably expensive commodity; but in relation to its working life, linen goods represent a remarkably sound investment. Linen is gaining a new mass-market of people who appreciate its inherent qualities, which are not just surface finishes but advantages which endure throughout the long life of the product.

Consumers find linen available for end-uses where its properties make it most helpful: "thirsty" kitchen cloths (no longer dull in design, but gaily printed or with a woven decorative motif), smooth hard-wearing bed linens, cool dress linens and suitings, mesh underwear, sports shirts for men, curtains, upholstery cloths with woven or printed designs, handkerchiefs of all sorts and sizes, including hand-embroidered types, game fishing lines, twines and cords where immense strength is needed, double-knot nets, and of course the unmistakable, always-correct Irish linen damask table coverings and napkins.

YOUR 1953 INDEX of articles appearing in "Textile Industries" is loosely bound in this issue. File it now for use later.

Suggestions for Weaving Dacron Yarns

Following are some of the suggestions for weaving yarns of "Dacron" polyester fiber presented in Preliminary Bulletin CSB-D-4 (Rev. 1) recently issued by the Textile Fibers Department of E. I. du Pont de Nemours & Co., Inc. The company emphasizes that the information contained in the bulletin is the best presently available on the subject. It is offered as a suggestion to form the basis of any further experiments or work which the reader may elect to conduct.

Warping. Use conventional creels that provide good end-to-end tension control at low tension levels. All warping methods can be utilized, with cones and various types of spools as either "over-end" or "rolling" supply packages.

Warping tensions should be as low as practicable (0.1 gram per denier for continuous filament yarns), but more emphasis should be placed on tension uniformity between warp ends than on lowness of tension.

Prevent beam crushing by carefully conducting tests to determine optimum creel, section beam, or loom beam yardage, considering warp density, beaming tension, and types of beams used.

Relative humidities of 55-70% are recommended for warping areas to aid in static control. Static eliminators on warpers aid processing.

If warping single-end sized yarns, keep relative humidity low enough to prevent softening of size film and resultant shedding.

Slasher Sizing. Elchem-1273, an alkali-soluble vinyl polymer, has given best results for sizing continuous filament yarns. Two formulas given for sizing medium sley taffetas of "Dacron" should provide a starting point for determining the optimum formula for each mill for its particular fabric construction and weaving conditions. Slasher conditions for both formulas are also stated.

Zero stretch with positive tension is suggested to reduce danger of beam crushing and allow more warp yardage on loom beams. Care should be taken to obtain uniform braking tension between section beams so that combined warp on loom beam will not have periodic tight and loose ends.

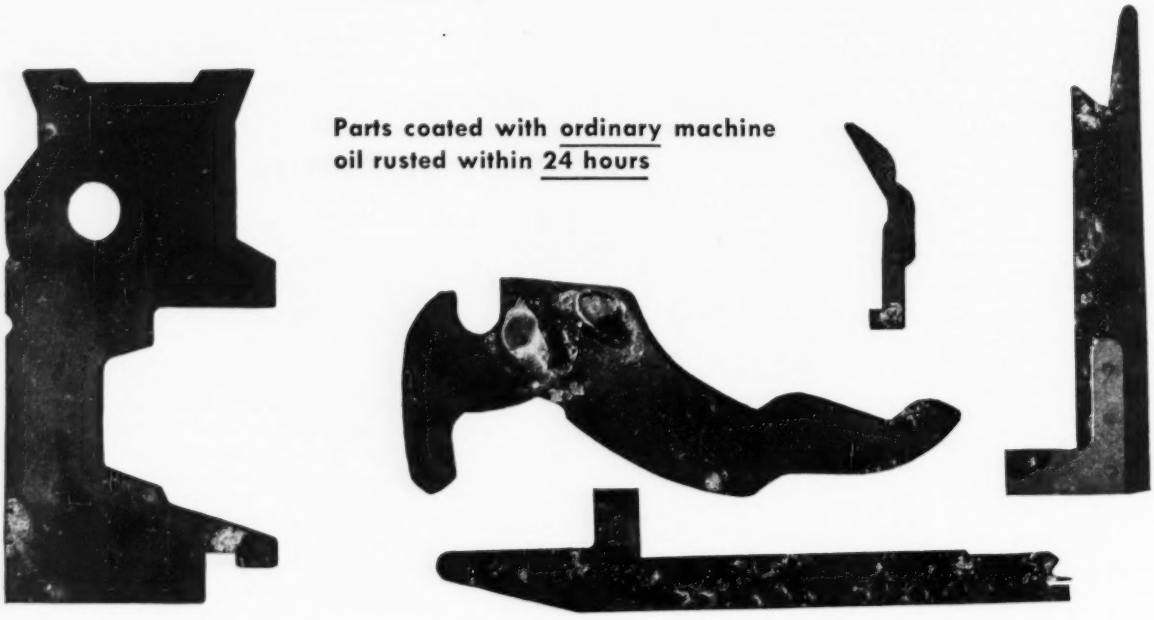
Before fabrics are subjected to heat treatment, they should be scoured to avoid setting of dirt, oils, etc. Elchem-1273 can be readily removed by normal hot soapy scouring solution.

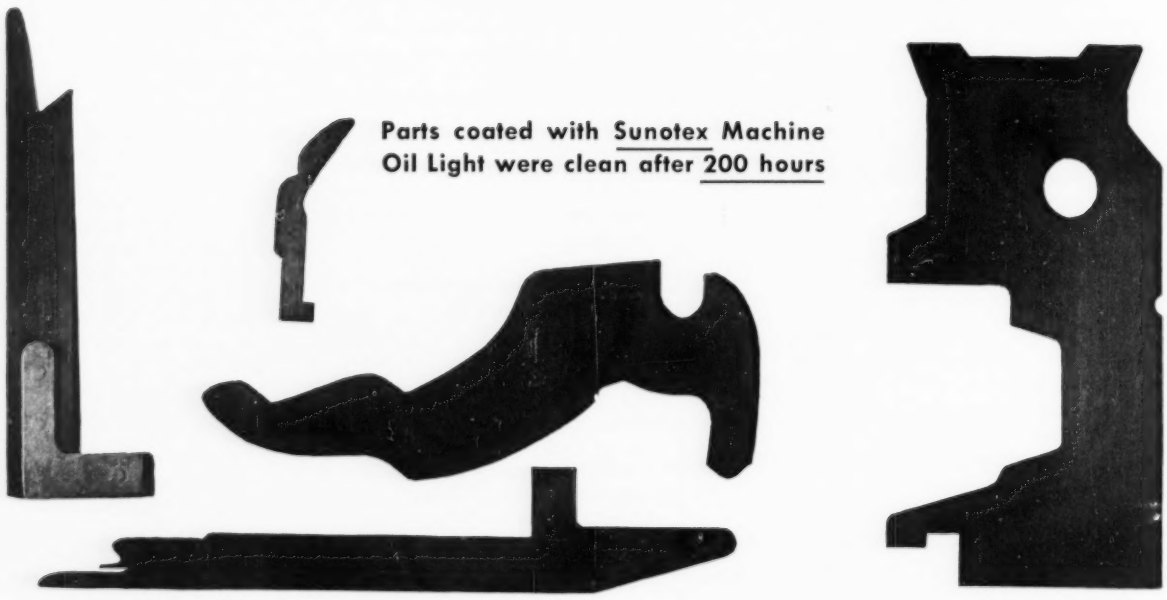
Quilling. When quilling directly from du Pont shipping bobbins, some type of smooth pirn cap should be used to prevent snagging and breaking of filaments of the low twist yarn on rough or nicked pirn heads. Anti-static agents are frequently applied by wick on the quiller in the case of direct pirn-to-quill transfer, or by roll or wick in the redrawing operation before twisting. Relative humidities of 55-70% are suggested for quilling area.

Pirn taper barre' has been found to be virtually eliminated by unrestrained contraction (relaxation) of the yarn, such as in a skein for 24-48 hours at room conditions. "Zero-twist" tubes without tapers give yarn that is free from this barre' effect.

Filling yarns should not be twist-set. If high twist levels of particular fabric constructions make twist setting necessary to reduce yarn liveliness, setting should be done on a

(Continued on page 209)





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LARGEST NUMBER of mill men from mills throughout Alabama attended the meeting. Those shown standing are among the out-of-state mill men who attended the forum.

Record attendance marks Alabama

Discussion on Carding-Spinning

Roving frame stop motions
Weight control in card room
Evenness in the card room
High speeds on licker- in
Anti-friction top rolls
Pneumafil and underframe cleaners
Controlling yarn counts in spinning
Casablanca Super-Draft changeover

Please turn the page

EXECUTIVE COMMITTEEMEN (left to right) Oliver Smyth, Pepperell; W. E. Williams, Sylacauga; H. S. Price, Opp; Homer Roberts, Anniston; R. L. Alford, Aliceville; C. A. McAbee, Huntsville.

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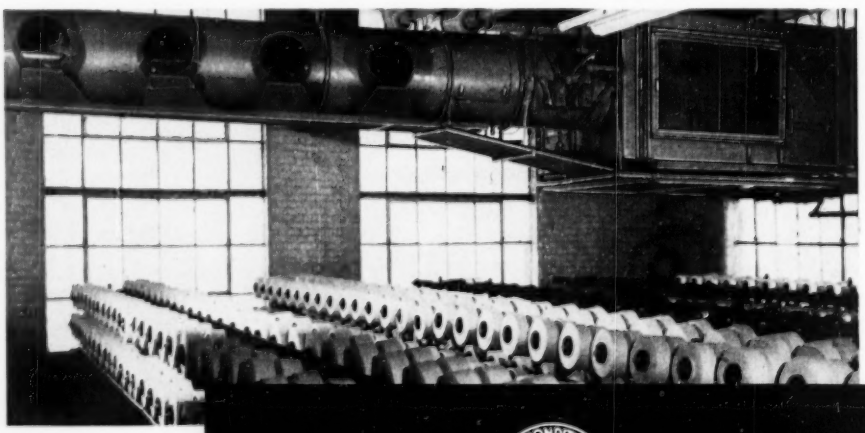
BAHNSON HUMIDUCTS combine humidification, heating, ventilating and air filtering with evaporative or refrigerative cooling. Outstanding for efficiency and economy in textile air conditioning — for any fiber. Write for Catalogue 4A.



*** 91 OF THE TOP 100**

Of the 100 top textile firms in the nation, 91 are users of Bahnson equipment.

Bahnson Company

ENGINEERS AND MANUFACTURERS

WINSTON-SALEM, N. C.

SIXTEEN Alabama mills, representing more than 750,000 spindles, submitted written answers to questions regarding carding and spinning practices. Representatives from mills throughout Alabama and from other states attended the meeting to participate in the discussion.

Staff Report

THE LARGEST number of mill men on record attended the fall meeting of the Alabama Textile Operating Executives. The group convened in the auditorium of Thach Hall at Alabama Polytechnic Institute, Auburn, Ala., on Saturday morning, October 3, to discuss practical mill problems related to carding and spinning practices.

Grady Webb, Jr., Langdale (Ala.) Mill Division of West Point Manufacturing Co., vice-general chairman, presided at the meeting; and Dwight Epperson, West Boylston Mfg. Co., Montgomery, Ala., led the discussion on carding problems.

Roving Frame Stop Motion. Four mills reported experience with combination electric stop motions and pneumatic end collectors on roving frames. These mills set forth the following advantages attributable to the equipment: (1) Eliminates doublings and singlings; (2) reduces slugs; (3) reduces ends down; (4) eliminates broken back ends; (5) reduces the amount of fly.

Weight Control in Card Room. A question regarding methods used to control weights in the card room revealed that where weights are controlled, charts from testing machines are used to determine the location of trouble on the card.

Sixteen mills answered this question, and 62% of the mills allowed a tolerance of plus or minus ½ lb on picker laps; 32% permitted a tolerance of plus or minus ¾ lb; and 6% had plus or minus 1 lb tolerance limits.

In some instances no humidity was employed in picker room; however, those using humidifiers maintained relative humidity at levels ranging from 50% to 65%.

Tolerances on drawing sliver varied from one grain per delivery per yard in some mills to 3.6 grains per delivery per yard in others. In one instance 10 grains per frame was established as the tolerance. Of those reporting, 38% weighed drawing sliver daily, 38% weighed on a weekly basis, 8% on a monthly schedule, and 16% had no weight test.

Roving weight tolerances ranged from 2% in some mills to 4% in others, and roving weight test schedules varied from none to intervals ranging from daily to weekly.

Evenness in the Card Room. Picker lap tolerances were checked on schedules varying from daily to monthly among those mills answering a question asking for this data. Tolerances were expressed in terms of coefficient of variation, and this figure varied from 1.25 to 2.01. Lap meters were the instruments used to perform these tests, and humidity in the card rooms ranged from 50% to 60%; temperatures were not specified for the relative humidity.

Frequency of testing card sliver ranged from daily to once every three months. Some mills did no testing on card sliver. There was no apparent correlation among tolerances allowed in the various mills. Several mills indicated that no fixed frequency of testing drawing sliver was maintained. The testing interval among other mills varied from two days to three months. Roving test frequencies included none, daily, weekly, and three-month intervals.

High Speeds on Licker-In. Six mills had experience with high speed lickers-in. Five of these noted a definite decrease in nep count and a corresponding improvement in quality. Most of these mills adopted the settings recommended by N. C. State to accompany the high licker-in speeds. In one instance a mill used regular card settings and found an increase in neps.

Speeds ranged from 700 rpm to 780 rpm among those mills trying

H. GRADY WEBB, JR., vice-general chairman, Langdale, Ala., presided over the meeting which was held in Thach Hall on the campus of Alabama Polytechnic Institute.

DWIGHT EPPERSON, Montgomery, Ala., led the carding portion of the discussion meeting.

OLIVER SMYTH, Pepperell, Ala., conducted the forum on spinning practices.

the higher licker-in speeds. On 45" cards (Dobson-Barlow) no significant difference was noted carding 5½ lb per hour. Other 45" cards on 1 1/16" cotton showed an improvement in nep count when carding at seven pounds per hour. This mill attempted to set the card as closely as possible to the settings recommended by N. C. State.

SPINNING

Oliver Smyth, Pepperell Manufacturing Co., Opelika, Ala., conducted the open forum on spinning. This portion of the meeting got underway with answers to a question regarding experience with anti-friction and oilless top rolls.

Anti-friction Top Rolls. Eight mills had experience with anti-friction rolls and/or oilless nebs, and a large majority of these were pleased with the satisfactory results obtained. In one instance it was found necessary to apply a slight amount of oil on front roll bearings once each 40 hours of operation. Another mill tried the anti-friction rolls and nebs on one frame with unsatisfactory results.

One answer to the question was as follows:

Mill K. "We have approximately 16,000 anti-friction middle top rolls (needle bearing type). We have had six to go bad—two bearing failures and other four stuck, did not turn freely. These rolls have been in operation 3½ years on three shifts. We are oiling these needle bearing middle rolls once a year. When excessive oil was applied we noticed seepage; this has given very little trouble. These rolls have functioned with a minimum of stopping and causing bad work. We have not replaced any synthetic cots on these rolls. We have nylon back roll slides. We noticed wear on these slides and started using white vaseline every six months. They are operating satisfactorily for us."

Pneumafil and Underframe Cleaners. Four mills gave experience with underframe cleaners; three of these also used Pneumafil. Seven mills had experience with Pneumafil. In one mill equipped with underframe cleaners, ends down remained the same as before, although yarn quality was improved by a reduction in slugs, and the cleaning schedule was extended. Experience with Pneumafil and underframe cleaners on 2.65s to 35s yarns showed a reduction in ends down ranging up to 40%. Four of these mills used only Pneumafil; the others used underframe cleaners also.

Yarn quality was improved in all instances except one in which no change was noted. This improvement was effected largely by a reduction in slugs, gouts, and doubles. Cleaning schedules remained the same according to three answers and was extended in two mills. Humidity requirements ranged from 48% to 60%, and one mill found it necessary to reduce humidity from 60% to 48% to prevent laps on top rolls.

THE AATT AWARD was presented to Robert B. Betts, Jr., (right) now with Avondale Mills, Pell City. Dr. David W. Mullins, executive vice-president of the Alabama Polytechnic Institute, made the presentation.

Mr. Betts was selected by the A.P.I. faculty as the member of the 1953 graduating class "who as an undergraduate has shown outstanding achievement in scholarship, technical ability, industry, judgment, leadership, reliability, and ability to work and cooperate with others."

HAT WINNERS!

Registration cards were placed in a hat from which two names were drawn. The names of **J. P. Birchfield,** Pepperell, Ala., and **George M. Coker,** Talladega, Ala., were drawn, and each man received a prize hat.

Controlling Yarn Counts in Spinning. The tolerances allowed on yarn numbers among the mills answering this question ranged from ¼ number to ½ number in some instances and from plus or minus 2% to plus or minus 5% in others.

Tolerances on yarn numbers were maintained by altering roving weights to compensate for variations, according to a majority of the answers to this portion of the question. Although most Alabama mills check yarn numbers and weights daily, a few check numbers twice daily, and some only twice each week. The number of bobbins weighed to check yarn numbers varied from a low of four in some mills to a high of 10 in others. A majority used eight bobbins for the weight check.

Only two mills out of 13 creeled roving of correct weight before sizing to determine if yarn is within tolerance. The remainder used random samples from frames as they operate on an everyday or production basis.

Casablanca Super-Draft Changeover. Out of six mills reporting experience with Casablanca changeover on spinning, five claimed more cleaning was necessary after the changeover than before the changeover. Half the answers to the question set forth that there was less yarn variation with the changeover, and the other half claimed no change in yarn variation as a result of the changeover.

Breaking strength of yarn was improved in four instances, and no change was noted after the changeover in two mills. Only one answer to the question indicated that no change in top roll weights was necessary after the changeover; five mills found it necessary to increase weights up to 40% more than was required before installing Casablanca changeover. Roving weights among these mills ranged from .50 to 1.50 hank; yarn numbers from 2.65s to 35.5s.

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Since these colors have specific affinity for ORLON, staining wool, rayon, and other fibers only slightly, they are ideally suited for dyeing blends of ORLON and wool, ORLON and rayon, and other combinations. They can be used in top, yarn, or piece dyeing with present equipment — dyeing at the boil or at raised temperatures under pressure.

For further information on these new basic dyes, or technical help on any dyeing problem, write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

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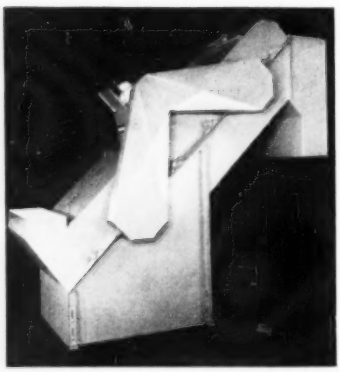
SEASON'S GREETINGS

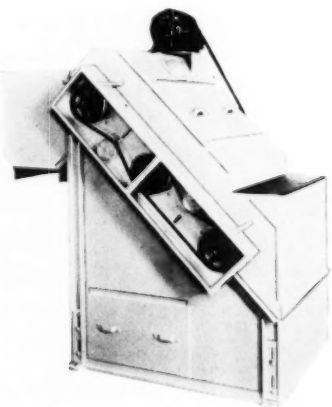
To our many friends and customers in the Textile Industry.

Thank you for your 1953 orders calling for SUPERIOR Cleaners and SUPERIOR Pre-Openers & Cleaners, and for your cooperation in the installation of these machines.



INCLINED SUPERIOR COTTON CLEANING MACHINE—For use in regular cleaning line. This proven machine operates as an independent unit following either Blending Line or Bale Breaker; or to supplement any prevailing opening and cleaning equipment. It delivers cotton as well as synthetic fibres completely open, absolutely free of curl and in ideal condition for Pickers.

SUPERIOR PRE-OPENER & CLEANER—For use between Hopper Feeders and Conveyor Apron delivering to regular cleaning line. This machine opens and pre-cleans the small amount of cotton delivered by each Hopper of a battery so that machines in regular cleaning line do a more efficient job.



The Centrif-Air Machine Co., Inc.

ENGINEERS (Licensees) MANUFACTURERS

ATLANTA, GEORGIA

The Vanishing Individualist

By Ringgold Arden

EXCLUSIVE

SINCE the textile industry is one of the last strongholds of individualism in industry, or in fact in business of any kind, we who are connected with it are peculiarly interested when other segments of the national economy fall into step with the regimented.

A few brief years ago the farmers typified rugged individualism at its finest, but most of them have recently traded off their birthright for the pottage of subsidization. Those connected with peanut farming tell us that this branch of agriculture is not only socialized, but communized, and its every movement is directed by bureaucratic fiat. Almost every other branch of agriculture feeds at the public trough.

A recent announcement indicated that the Federal Government, which is to say the taxpayers, had over three billion dollars tied up in surplus commodities. At the same time, angry farmers all over the United States are demanding that this figure be tremendously increased. Many political experts contend that the national election of 1948 turned on the question of the Federal Government buying grain storage facilities at the taxpayers' expense to store grain that it didn't want, and bought with money that it didn't have, but hoped to get from the taxpayer.

For many years the American cattle baron was held up as the ruggedest of all rugged individualists. This claim at one time might have been disputed by the hard rock miners, but they had succumbed long ago to Government subsidization in the form of selling silver to the Government at about two or three times what it was worth. Now, the cattle barons have turned up in Washington, not exactly with their hats in their hands, but rather, brandishing their spurs and demanding that the Government put them on its hand-out list.

It seems almost yesterday that one of our big weekly magazines had several pages in color glorifying the American cattle baron, and explaining that he existed in three general types: the big millionaire; the millionaire, and the little millionaire, who was the chap with only seven or eight million dollars. Perhaps these were only paper millions, subject to rapid reduction in the hot flames of reality, but anyway, the cattle peerage showed up in Washington looking for money—our money.

Even in our own industry, certain segments have sniffed at the subsidy and found it good. The Government, which is supposed to come to the rescue of anybody, anywhere, who can't make a go of it independently, has been asked to buy textiles from the chap who thinks he needs the business the worst, instead of from the one who can sell the best goods at the lowest price.

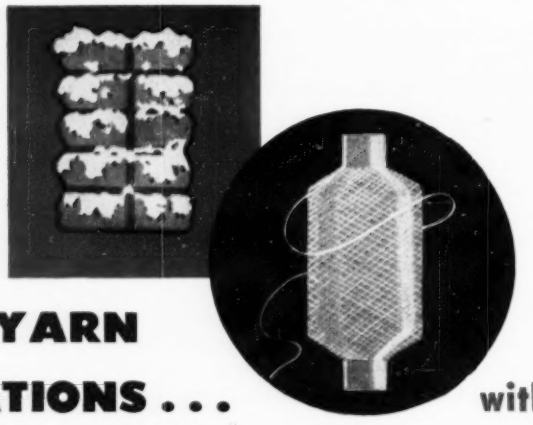
The dairy industry for generations depended on a particularly malodorous racket for its survival, because it sought by law to force people to buy something they couldn't afford, by denying them something that they could. The potato growers are still drooling over the thought of the good old days when they could sell potatoes at twice what they were worth, to a kindly but stupid Government, and then buy the same potatoes back a few months later at about one-tenth of what they were worth.

The extent to which this sort of thing is going on is a measure of the extent to which the camouflaged socialism known as New Dealism has spread its poison throughout the economy of this country. This is the doctrine that "Somebody else must give me what I want." The farmer must be made prosperous by forcing urban dwellers to pay too much for their food and then dig down in their pockets to buy food to be thrown away. The prosperity of the urban dweller is to be enhanced by letting him overcharge the farmer for every manufactured thing he buys. By everybody overcharging somebody else for something, we remain prosperous. What a wonderful system!

The rugged individualists built this country. Almost every important business in our nation is a monument to one of them. Thousands of them went through life leaving a wake of prosperity behind them, and even the humblest often left some worthwhile contribution to our country's progress.

The skilled craftsman was usually an individualist, proud of his skill. Some of these craftsmen, like Henry Ford and Walter Chrysler, helped to revolutionize life in the United States, and to create untold wealth to be enjoyed by hordes of people who hoot at the rugged individualist. But for these sturdy characters, this country would be but a pale shadow of its present greatness.

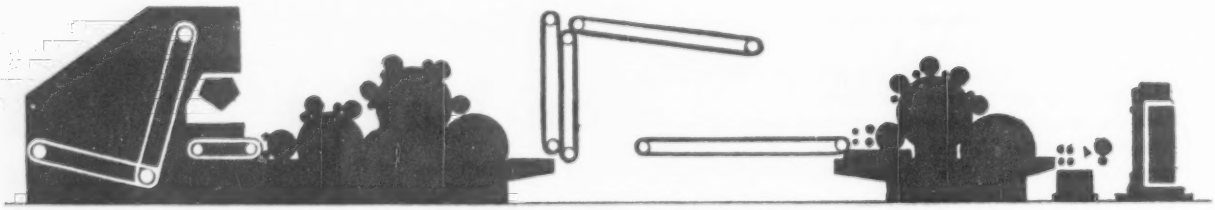
Socialism, however, abhors great performance by the individual. According to its dictum, everything must be accomplished by that amorphous thing known as "the



FROM STOCK TO FINELY SPUN YARN IN 6 OPERATIONS . . .

with the New

PROCTOR SYNTHETIC CARD...



Yarn taken from the actual production runs of the first mills to use the new Proctor Synthetic Card proves that here is one of the greatest advances of the textile industry in this century.

Finely spun yarn is made from stock in 6 operations — thanks to the work of this new Proctor card.

This latest development — from the engineers who have pioneered every major advance in fiber processing equipment — is an entirely new Proctor Duplex Card designed especially for the carding of blends of fibers which are usually mixed in a Proctor blending system. These blended fibers are carded, cross blended through the use of a special intermediate feeding system, carded again and delivered in a multiple end delivery arrangement. From this point the carded material is being carried forward through gilling, drawing, roving and spinning to make an excellent yarn with the very minimum number of operations.

Textile history is being made with this latest Proctor card. Investigate its possibilities in your operation today . . . it can easily put you well out in front!

PROCTOR & SCHWARTZ, INC.

PHILADELPHIA 20, PENNA.

state." It exalts herd action rather than individual brilliance.

Perhaps the most deadly of all the enemies of individualism is the labor union, which grades all working men down to a level of mediocrity which permits the worst to be classed equally with the best. With such a system there will in time be no best. When the reward of the worst workman is equal to that of the best, there is little incentive to climb up out of the ranks of the worst.

Since nearly all of the great builders of America sprang from the ranks of working men under a system which encouraged the unusual person, we keep wondering how long it will take for a few generations of people trained in the herd instinct to exhaust without creating, to destroy those things which have been peculiarly American.

The present National Administration may possibly be faced with the most serious and fundamental problems that have faced any administration since the time of George Washington. This administration not only has all of the problems incident to the ordinary conduct of government, aggravated by an unprecedented foreign situation, but it is faced with the problem of reversing the socialist trend which is destroying the very things which set this country apart from practically all of the other countries of the world as a land of free enterprise, in which every man had a right to all the prosperity which he had the ability and the urge to create.

Taking socialism away from a people is much like taking a bone from a dog. Even if there isn't the slightest particle of meat on it, the dog thinks the bone is wonderful, and will assault anybody who threatens to disturb it. People are equally charmed by the meatless bone of socialism. It doesn't actually give them anything, but it seems to do so, and this appearance is as enchanting as the smell of a bare bone to the dog.

This sort of schizophrenic thinking is peculiarly evident about taxes and Government spending. Everywhere is the opinion that the Government collects too much and spends too little. It is a rare com-

Pilling Test Developed for Apparel Fabrics

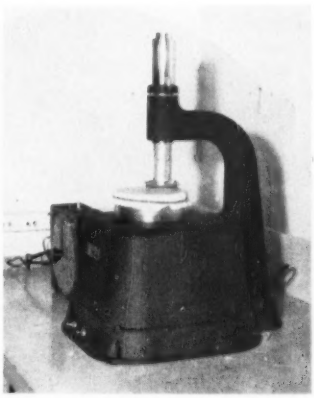
While carrying out an extensive development and evaluation program with the new synthetic fibers in tropical, serge, flannel, and melton fabrics, the Navy has continually asked the questions: "What qualities are being sacrificed?" and "What can be done to control and minimize present disadvantages in new fibers, blends or finishes?"

As part of the program, control and experimental fabrics were made into garments and worn over a two-year period. At intervals questionnaires were completed by the wearers and the garments themselves were subjected to careful inspection. During the periodic examinations, one of the most objectionable changes found to be taking place, in the appearance of many of the fabrics containing Dacron and nylon, was the development of unsightly pills (bunches or balls of fibers on the surface of the fabric).

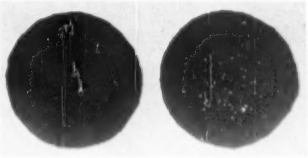
A special program was instituted to study the mechanism of appearance changes in fabrics, to develop a laboratory machine to simulate the development of these changes in wear, and then to establish correlation between the laboratory tests and actual wear results.

Observations. In appearance pills have been found to fall generally into two distinct but related classes: fabric pills and lint pills. Fabric pills are formed by the rolling and twisting together of fibers at the surface of the fabric and are generally the same color as the fabric. This type of pill appears to be most noticeable on light-colored, plain, clear-finished fabrics. What we call lint pills form when foreign matter or lint is occluded in the pill during its formation. This type of pill is particularly objectionable since it is different in color from the base fabric. Its development appears to be most pronounced on dark fabrics having a surface nap or cover.

Another important observation which was made was that



The Appearance - Retention Tester, which is now available from Fabric Development Tests, 185 Twenty-Sixth St., Brooklyn 32, N. Y.



Flannel samples after pilling test in the appearance-retention tester for 60 minutes at 1.2 psi. Left 100% wool; right, 30% Dacron.

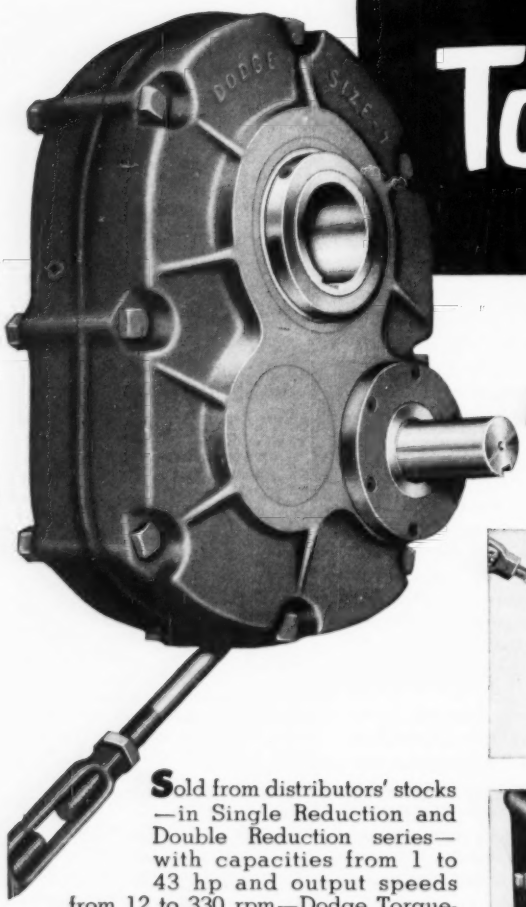
pill formation in wool-blend fabrics took place somewhat differently than in staple fabrics made with synthetic fibers. In the case of the synthetics, pill formation takes place in two stages. First, the fabric becomes fuzzy as the surface fibers are roughed up. This fuzzing may take place over an entire garment without the formation of pills. Then, in those areas of the fabric where the surface is subjected to special conditions of wear, the raised fiber ends become tangled and are rolled and twisted into typical balls or bunches.

In wool-blend fabrics, however, a third preliminary step appears to be involved. Because of its unique fiber migrating characteristics, the wool fiber, during fulling, works out to the surface of the fabric and forms a protective covering over the synthetic fiber. In such fabrics the synthetic fiber ends are not immediately available for pill formation and only begin to act when the surface layer of wool fiber has been worn off.

(Continued on page 209)

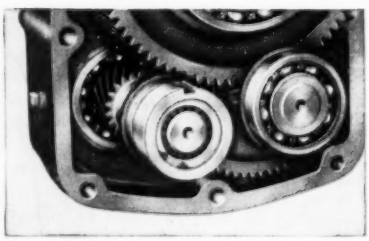
From paper by Jack J. Press, fiber specialist of the Clothing Supply Office, U. S. Naval Supply Activities, N. Y., presented before the American Association for Textile Technology, Inc., meeting of October 7, 1953.

Torque-Arm



The Most Complete Line of Shaft-Mounted Speed Reducers!

TRI-MATIC OVERLOAD RELEASE
Provides instant, positive protection for driven machines, motors and reducer itself. Automatically (1) loosens the belts, (2) cuts off power, (3) gives a warning.



TORQUE-ARM BACK STOP
Available from stock when required. Easily installed—sealed inside reducer housing. Simple, positive action prevents reversal.

Sold from distributors' stocks—in Single Reduction and Double Reduction series—with capacities from 1 to 43 hp and output speeds from 12 to 330 rpm—Dodge Torque-Arm is the new and modern idea in speed reducers.

No special engineering required. No foundation to provide. No flexible couplings. No sliding base. No lining up difficulties. No expensive installation. Stock Taper-Lock sheaves prescribed for each job to provide desired speeds. Application to other machines is practical and easy.

Unit is driven through any V-Belt Drive. Torque-Arm, fastened to any fixed object, anchors the reducer unit. Turnbuckle provides fast and accurate adjustment of belt tension.

Standardize on Torque-Arm, the speed reducer that saves you money.

DODGE MANUFACTURING CORPORATION
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DODGE
of Mishawaka, Ind.

CALL THE TRANSMISSIONEER, your local Dodge Distributor. Factory-trained by Dodge, he can give you valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Machinery" in your classified telephone book.

1878 DODGE 1953 75th ANNIVERSARY

TAPER-LOCK SHEAVES, SEALED LIFE V-BELTS

DODGE-TIMKEN PILLOW BLOCKS

TAPER-LOCK FLEXIBLE COUPLINGS

munity which hasn't some cherished project to be started when the Government will furnish the money. It is nearly always the National Government which is supposed to furnish this money for something local people would never dream of doing with their own money.

That Government money is their own money never seems to occur to them. Government money is always "somebody else's money." In some emergency, like a flood or a drouth, people don't look to their State Capitol for their help, because such help would be rendered with their money. They look to the Federal Government under the obvious delusion that the taxpayers in some other state are raising the funds to help them in their trouble.

Nearly everybody claims to be in favor of lower taxes—not lower taxes for everybody of course, but lower taxes for himself, and particularly lower direct taxes. The typical taxpayer doesn't seem to worry too much about the concealed taxes because he often doesn't understand how he pays them, or really believe that he does pay them. Recognition of this trait is now being given in the proposal to levy an extended manufacturers' excise tax. This is a hidden tax, and the consumer probably doesn't suspect its existence, or if he does he is only vaguely aware of it.

A manufacturers' excise tax is a consumers' sales tax with a sugar coating. Its principal political advantage is that the poor dumb taxpayer won't realize that it is there. It has always seemed to us that all of these taxes which are imposed without the taxpayer realizing that they are there, are bad taxes, and that a good tax must be so obvious, and so ruthlessly direct, that the taxpayer is never under any illusions about his responsibility. Where indirect taxes are imposed, the real taxpayer almost invariably is deluded into thinking that somebody else pays the tax.

This manufacturers' excise tax is the same type of tax as the tax on corporate profits. As we seem to be entering a period where profits may considerably diminish, or frequently vanish, an excise tax would be necessary to replace a tax contingent upon the presence of profits. In one case the Government expects to share in the profits of business, and in the other case it guarantees getting its cut irrespective of whether business makes a profit or not.

Basically, the two taxes are alike, because any well-managed corporation has got to consider its corporate tax as a part of the expense of doing business, and if conditions warrant any profit the management of the corporation must always figure on twice as much profit as would be normal, because only half of the profit belongs to the business. The excise tax is a sure thing instead of a problematical thing.

Both the excise tax and the corporate profits tax have the great objections of being hidden taxes, and looked upon by the public not as taxes but as part of the cost of living. A tax should never be regarded as a part of the cost of living, because no portion of one's income is available for living until after the tax has been paid, and whenever this tax is paid in such fashion that the ultimate taxpayer is unaware of its existence or indifferent to its presence, he is not personally interested in national tax policies.

We have always felt that the more directly taxes can be made to impinge upon the consciousness of the individual who pays them, the more keenly this individual will be interested in spending policies of the Federal Government. It may be taking too much for granted to assume that the taxpayer is capable of this much mental effort, but we would at least like to give him the opportunity to know how much tax he pays so that he can decide whether he wants to really do something about its being too much.

"The Government, which is supposed to come to the rescue of anybody, anywhere, who can't make a go of it independently, has been asked to buy textiles from the chap who thinks he needs the business the worst, instead of from the one who can sell the best goods at the lowest price."

Flame-Resistant Cotton Fabrics with THPC

Permanent flame-resistance may be imparted to cotton fabrics by treating them with aqueous solutions containing tetrakis-(hydroxymethyl) phosphonium chloride (abbreviated to THPC), methylolmelamine, and other substances, followed by drying and curing. The THPC polymerizes with the methylolmelamine to form an insoluble resin inside the cotton fibers. THPC is a crystalline compound that is soluble in water and in many organic solvents. It is made by reacting phosphine with aqueous hydrochloric acid and formaldehyde.

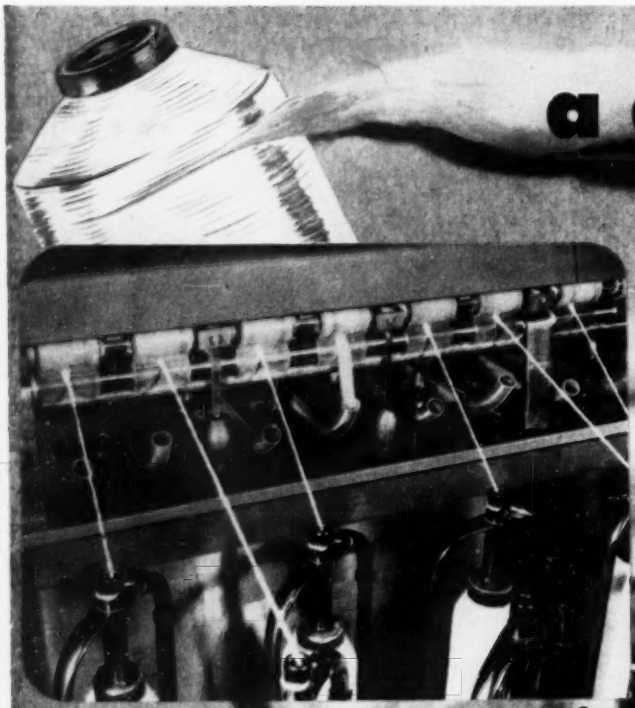
Until just recently, THPC was not available, even in small quantities, from any known source, but, as a result of current interest in its possible use as a flameproofing agent, it is now being made on a pilot plant scale by at least one commercial company.

When THPC is polymerized with methylolmelamine inside the cotton fiber, the fiber is made flame-resistant. This resin remains in the cotton after many launderings and even after boiling the fiber in dilute sodium hydroxide solutions.

Cotton fabrics can be flameproofed with THPC resins using conventional chemical finishing equipment. The goods are finished by merely padding them in the aqueous resin-

(Continued on page 211)

Highlights of a paper presented by Wilson A. Reeves of the Southern Regional Research Laboratory at the Second Chemical Finishing Conference, sponsored by the National Cotton Council.



a double-barreled investment

Pneumastop For Roving

Lower Cost—Better Quality

Pneumastop equipped roving frames operate at lower cost because the frame automatically and immediately stops when an end breaks, therefore operators tend more frames (piecing one end is quicker than piecing three or four) . . . job specialization is made possible . . . non-productive walking and inspecting time is eliminated.

Pneumastop equipped roving frames make better roving because a constant stream of air passing around each end removes free lint from the air, consequently air, frames, and floors are kept cleaner, meaning fewer slubs . . . conditioned air is brought right to the drafting area giving added strength to roving, reducing breaks . . . "snowstorms" are eliminated . . . double roving ceases to exist.

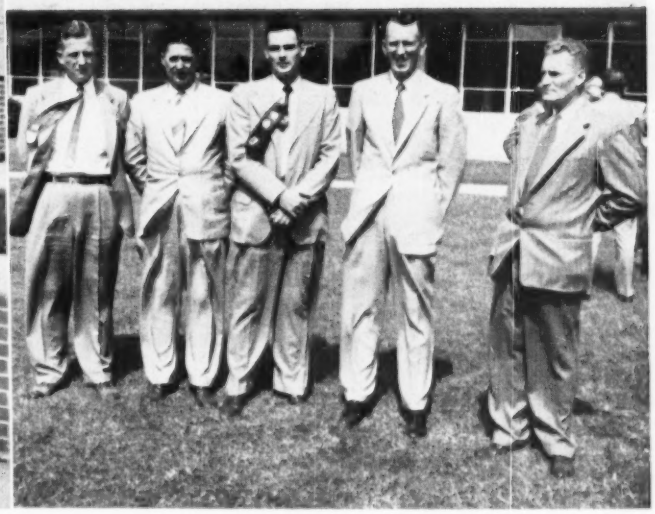
Let us explain in further detail why . . .

Pneumastop is the best roving investment you can make.

PNEUMAFIL CORPORATION • Charlotte 8, North Carolina

Sales Offices: Needham Hts., Mass.—Atlanta

FROM COVINGTON (Ga.) MILLS (left to right): H. S. Lord, B. S. Glanton, L. C. Johnson, and W. T. Brown.



FROM BIBB AT COLUMBUS (left to right): Solon Pitts, Frank Cameron, W. L. Carr, Jr., James Edwards, and J. P. Parker.

They came from far and near to hear

Georgia Mill Slashing Practices

Staff Report

INDICATIVE of the interest created by publicity given to the fall meeting of the Textile Operating Executives of Georgia held in Atlanta on October 3 was the fact that nearly 300 mill men came, some of them from such distant cities as Nashville, Tenn., Stonewall, Miss., Lincolnton, N. C., Columbia, S. C., and Alabama City, Ala.

Turner R. Scott of Martha Mills, Thomaston, Ga., was elected general chairman, succeeding T. M. Hampton of Hillside Plant, Callaway Mills Co., LaGrange, Ga. New vice-general chairman is **E. Allen Bentley** of Swift Mfg. Co., Columbus, Ga. **Herman A. Dickert** of A. French Textile School, Georgia Institute of Technology was re-elected secretary-treasurer. Named to serve on the executive committee until the spring of 1956 was **Lester D. Sayers** of The Dunson Mills, LaGrange, Ga.

Slashing and weaving were the topics discussed. Long before the meeting a list of the 31 questions was sent to Georgia mills, and 21 of them—representing 1,100,472 spindles—submitted written answers to these. This report is an analysis of both the written answers and others given at the time of the discussion.

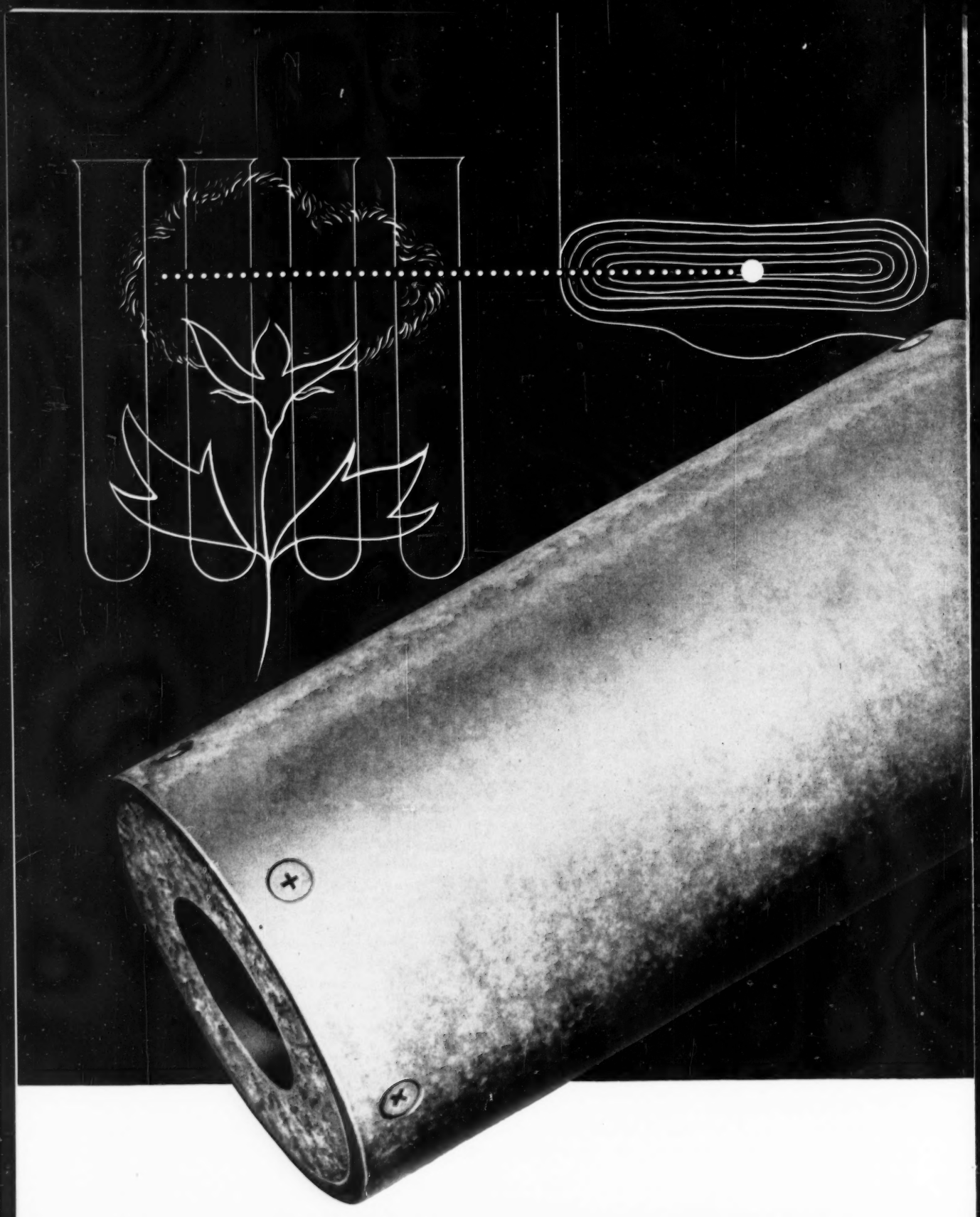
Leader of the slashing portion of the forum was **Charles S. Bolen** of John P. King Mfg. Co., Augusta, Ga. Mr. Bentley conducted the session on weaving.

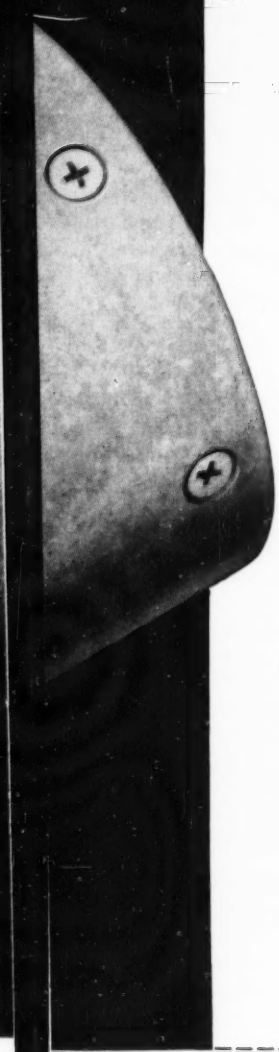
Selvage Control at Slasher. When using plied yarn selvage, single warp, nine mills claimed it was best to run the selvage yarn from one section beam at the slasher. Six mills chose to run the selvage from a creel on the slasher, and two mills distributed the selvage ends to all section beams on the slasher. A total of 17 mills answered this question.

Selvages on Dye Beams. Answers to a question regarding trouble with selvages on dye beams at start up of sets were as follows:

Mill K. We have trouble with selvages on dye beams where ends are blown by pressure in dye tub. We have to cut laps or either add

★ ***What to do with plied yarn selvages; also blown selvages on beam dyed yarn.***





Here's what micarta® LAMINATED PLASTICS is doing to boost textile production

A leading textile mill wanted lighter, tougher lap rolls which would stay on the job longer. MICARTA® was the answer. Now the MICARTA lap rolls not only last months longer than the ordinary wooden rolls but their lighter weight permits up to three additional pounds of cotton to be wound on each roll. In addition, the MICARTA surface permits instant pick-up and wrinkle-free winding without the nuisance and expense of removing clinging bits of lap.

Here's what MICARTA can do for you

Light, tough, smooth-wearing MICARTA will pay off for you on products like spinning buckets, shuttles, bobbins, pirns, picker sticks and gears. On other textile applications, too, you can take advantage of its ability to withstand and "cushion" heavy vibration and shock . . . to reduce nerve-wracking noise. MICARTA means economy, less maintenance, more production.

Remember that Westinghouse-developed MICARTA is a thoroughly proved basic material. For the complete story on MICARTA call your nearest Westinghouse office or just fill out the coupon below. J-06542

YOU CAN BE SURE...IF IT'S Westinghouse

Westinghouse Electric Corporation • MICARTA Division, Trafford, Pa. • Attention: L. A. Pedley

micarta® is basic!

Sir: (Please check one)

☐ Please have your representative call

☐ Please send me the complete facts on MICARTA

Name _____ Company _____

Address _____

City _____ Zone ____ State _____

A WOOLEN MANUFACTURER
ASKED FOR:

Bright violet checks

The dyehouse delivered a perfect job,
thanks to a new Sandoz dyestuff development

Problem:

Recently a high-grade woolen manufacturer wanted to put out a fabric with bright violet checks. The problem was that the fast-to-light violets then available did not have sufficient fastness to fulling, and would stain the white checks, while the fast-to-fulling violets did not have sufficient fastness to light.

Solution: a new Sandoz dyestuff

The problem was solved by Sandoz' timely announcement of Brilliant Alizarine Milling Violet FBL Pat. This is the first violet dyestuff which possesses the required brightness of shade, along with both fastness to light and fastness to fulling. In addition to these properties, it also has excellent fastness to carbonizing, decatizing, crocking, salt water, perspiration, and washing.

Brilliant Alizarine Milling Violet FBL Pat. is the newest of several fast-to-light colors which Sandoz has pioneered. By combining them with Brilliant Alizarine Milling Blue BL Pat., Blue 2RL Pat., Blue FGL Pat., or Brilliant Alizarine Milling Red FBL Pat., it is now possible to produce violets in any shade or depth with excellent fastness properties.

• • •

If you are faced with the problem of obtaining a special shade or fastness for any fabric, natural or synthetic, Sandoz Technical Service may be able to help you solve it.

Write to your nearest Sandoz branch office in Hudson, Mass.; Providence; Fairlawn, N. J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N.Y.

SANDOZ

SANDOZ

THINKS AHEAD WITH TEXTILES

up ends until they will run. We have to keep a large stock and variety of colors in package dyed yarn in order to do this.

Mill R. We have a very small percentage of blown selvages. When we have blown selvages on dye beams, these ends are left out, and ends are added from cheeses.

Moisture Controls on Slasher. Thirteen mills reported experience with various kinds of moisture controls on slashers, and in every instance results were good. Maintenance on this equipment was termed "none," "minimum," "minor," and "very little," by those relating experience. Results with moisture indicators which do not control were too limited to be indicative.

Checks for Size Percentage. Ten out of 12 mills answering a question regarding size percentage controls stated that sample analyses and size batch preparation checks were the best ways to keep size percentage constant. One mill merely maintained size circulation and level in size box. Another weighed beams and calculated size content to determine need for further action.

Recommendations to correct trouble with wet streaks in warps run on a slasher equipped with a moisture control were as follows: slow speed and add pressure to squeeze rolls; check moisture by feel; keep moisture controls in good condition; and use good blanket on squeeze rolls.

Control of Crocking. Only three answers were forthcoming to a question on how to control crocking of dark colors on bleach or light colors without double boxing sets:

Mill K. We wet split our sets, and this helps prevent crocking. We also use barium chloride in the size, and the dye house uses a salt rinse on beams after soaping them off. Then colored beams that give trouble are dried before being put in the slasher.

Mill R. We use a wash box, located behind the size box, to wash out excess dye.

Mill U. When we run dark and light colors in the same sets, we use a double size box. The lighter color is run through one of the size boxes, and the dark color is run through another.

Wet Section Beams. One question asked for information regarding how to keep wet beams from becoming heavy-sided; and if they do, how to avoid too much stretch in the slasher creel. The only answer to this question was given as follows:

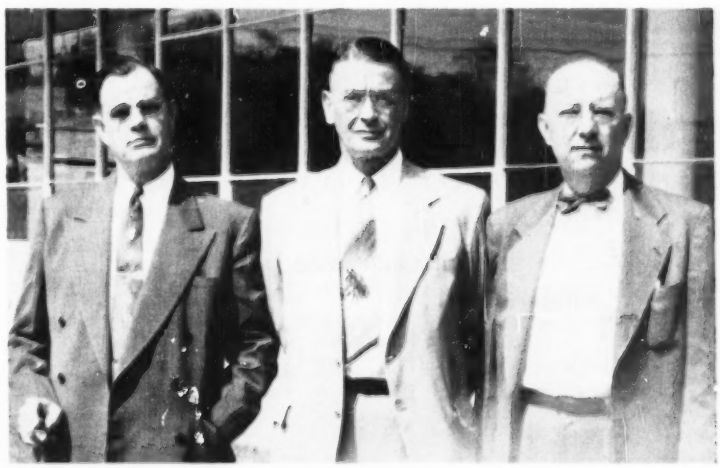
Water should be blown from the beams in the dye house before removing from the beam dye tub. A beam then should be run as soon as possible so as to prevent any water from migrating to the bottom of the beam unless, of course, you have some pre-drying system which will remove the major portion of the remaining water from the beam. Once a beam is heavy-sided, we do not know of much that can be done to prevent stretching.

Waste Control in Slashing. Normal per cent of hard waste and soft waste made at the slasher, based on pounds slashed, varied from .05% to 1.88% among those mills answering this question.

Several methods of creeling to minimize the amount of hard and soft waste were set forth as fol-

FROM AUGUSTA AND LINDALE (left to right): **Charles S. Bolen** and **Roscoe O. Roberts** of John P. King Mfg. Co., Augusta; **Robert J. McCamy** of Pepperell Mfg. Co., Lindale, Ga.

FROM LINCOLNTON, N. C., came **D. E. Long** of Massapoag Mills Corp. Standing with him for this photograph were **Claude Cash** and **J. B. Cooper** of Muscogee Mfg. Co., Columbus, Ga.



air conditioning

writes a happy ending to this hot-weather yarn

Here's a story with a twist—3 twists, in fact! In the picturesque Blue Ridge Mountain town of Marion, North Carolina, Cross Cotton Mills Company turns out 700 different shades of fine cotton yarns. But hot weather, until recently, boosted production costs by requiring 3 extra turns to maintain the yarns' high quality. ▪ Here was an opportunity for complete air conditioning to cut operating costs. Cross Mills added a Carrier Centrifugal Refrigerating Machine to their air conditioning system. Results: temperature and humidity are accurately controlled inside the mill, whatever the outdoor weather. The 3 extra twists no longer are needed. And production costs were reduced! As an extra dividend,

Cross Mills found that employee comfort and efficiency were further improved. ▪ Air conditioning of textile mills calls for special techniques and a special background of experience. Carrier has been working closely with textile management for many decades. *There is more Carrier refrigerated air conditioning in textile mills than any other make.* ▪ Whether you spin, weave or knit, whether your mill is old, new or still in the planning stage, Carrier's vast experience in the textile field can increase your plant's efficiency and save you money. The booklet, "Air Conditioning for the Textile Industry," tells a story worth hearing. It's yours for the asking. Just write to: Carrier Corporation, Syracuse, New York.

Carrier

air conditioning
refrigeration
industrial heating

lows:

Mill A. Pull ends from back beam up to the next beam in creel and continue, picking up the ends from each beam until all ends have been pulled to the size box.

Mill C-1. We use paper on the ends of our section beams. When the new set is tied in and the paper is through the size box, the nip roll is lowered and the slasher is run until the tie comes to the lease rods. Lease rods are then removed, and the new set is laid in the rake right behind the paper. Care must be taken to prevent hard size from forming on the warp during this operation.

Mill H. We keep even tension on section beams in the creel by using ball bearings on the beams and ropes and hanging weights. When a section beam runs out, another set is tied onto the end of the outgoing set. Lease strings are run immediately as close as possible to the knots. The knots are run through as close as possible to the loom beam, and the full beam is doffed. The new set is then run until lease rods can be put in and yarn is put on the beam.

Slasher Squeeze Rolls. Only three mills out of 20 reported using one-piece blankets on slasher squeeze rolls. The other 17 mills employed two pieces of blanket, always putting an old piece on the outside when installing a new piece next to the roll. In some instances worn blankets were trimmed until they became short before they were discarded and new ones installed.

Pneumatic Squeeze Rolls. Four mills recounted experience with pneumatic squeeze rolls on slashers, and all of these obtained good results from the equipment. Yarn counts in these mills ranged from 6.75 to 16, and the number of ends varied from 1000 to 6500. In two instances pressure was varied on the squeeze rolls, depending upon the yarn counts and ends in the warp. One mill ran only one kind of warp; therefore no change in pressure was needed.

Homogenizers. A representative answer to a question asking for in-

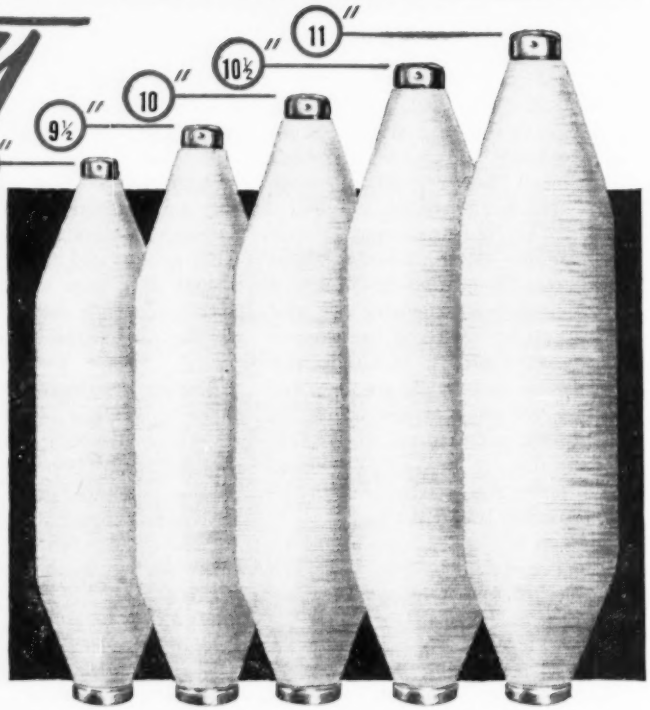
Quality Control in Slashing

Mill	No. of Slasher Cylinders	No. of Ends	Yarn No.	% Stretch Nip Roll to Loom Beam	Use Slack Rods in Creel	Method Used to Control Stretch
A	3	2,430	16/1	1 — 1.5	No	Variable speed drive
C-1	2	1,500	10/1	1.5 — 2	Yes[2]	Beam weights
C-2	3	528—1,368	16/1	1	No	Positively driven creel
D		486—3,226	25, 31, 40	1.75	No	Variable speed tension control and beam weights
E	3	2,000—3,000	14-30	1.4	No	Beam weights
G	3	1,950	3.75	1.75 — 2	No	Change diameter of delivery roll
H	3			1.75	Yes[3]	Multi-motor drive with adjustable stretch control
K	4[1]	1,996—5,800	16/1	4.5	No	Tension control motor
O	3	2,000—3,000	12.25-17	1 — 1.5	Yes	Beam weights
R	3	600—2,000	8-20	3	No	Change gear on creel; change diameter of front roll
T	3	4,680	14.5	1.5	Yes	Change diameter of calender roll
U	3	2,668	8		No	Multi-motor drive
W				1.75	Yes	P.I.V. drive
X		1,758	15/1	1.5 — 2	No	Multi-motor drive
Y		1,050—5,600		1.5 — 2.25	No	Change diameter of delivery roll

1. Also have one hot-air type slasher dryer.
2. Between section beams and size box.
3. One between first two rolls as yarn enters size box.

Flexibility

. . . an outstanding feature of the WHITIN Model "F3" SPINNING FRAME



Providing flexibility in production is very important to mills in keeping pace with future changing market requirements. The Whitin F-3 Spinning Frame can make large packages with 3″ rings and 11″ traverses containing up to 16 oz. on coarse counts, and can be quickly and easily adjusted to run 10″ or 9″ packages with ring sizes less than 3″.

PROVEN PERFORMANCE — The Whitin F-3 Spinning Frame is designed and constructed *to meet exactly every mill requirement* for high quality, high production spinning at the lowest possible cost. In mill operation it has proved its ability to lower not only spinning costs, but to effect substantial savings in winding.

Only on Whitin Spinning Frames is the two-apron Super-Draft system available. This drafting system developed by Whitin is recognized as being without equal for fiber control, drafting performance, and for the quality of the yarns produced.

This Whitin F-3 Spinning Frame presents no installation problem, and it is a type with which operators are familiar. The creel is easily accessible; roving supply packages stored to top are within easy reach of the spinner. Moreover, no special operational difficulties are encountered; travelers required can be quickly chosen. By design and in construction it is a spinning frame *planned* for high production and low cost operation.

Power costs are at a minimum also. Maintenance costs, not only when the frame is new, but after long periods of operation, are low, constant, and stable.

The Whitin F-3 Spinning Frame has set new standards of high quality and low cost in many leading mills. Why not let a Whitin representative show you how it can keep your Spinning Room *flexible* — AND *competitive* in a changing market.

For complete information ask your Whitin representative or write direct to us.

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CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Plan to Organize Textile Division, ASME

J. C. Edwards, Jr., of Exposition Cotton Mills in Atlanta, Ga., announced to the group that an effort is being made to obtain a charter for and organize a textile section of the American Society of Mechanical Engineers in the South.

To this end, plans are being made for a meeting to be held in Atlanta, probably next February (exact date to be published later), at which time **R. J. Cheatham** of the Southern Regional Research Laboratory in New Orleans, La., will present a paper describing a loom attachment developed at the Laboratory for weaving dense fabrics. A show of hands indicated that many of those present were interested in the subject and would be on hand for the proposed meeting.

Weathering of Cotton Duck

(Ultra-Violet Screening Properties of Certain Pigment Vehicle Combinations)

A review of results with an additive finish on cotton duck (which does not chemically modify the fiber) and as applied to the fabric in a single-step process with conventional finishing equipment, shows the following when the composition of the additive finish consists of chlorinated paraffin, antimony oxide, calcium carbonate, inorganic pigments, and fungicides:

Effective additive finishing will to a great extent protect and preserve the chemically unchanged, underlying cotton from the degradation caused by weathering. Fungicides, such as copper naphthenate, when used alone will actually cause the fabric with which it is treated to deteriorate faster than the corresponding untreated fabric when exposed outdoors.

Chlorinated paraffin is unstable to heat and light which causes the release of hydrogen chloride from the compound. When applied alone to untreated duck, chlorinated paraffin therefore accelerates the rate of deterioration of the fabric either in accelerated or outdoor weathering. The essential vehicle or binder constituents of the compound named therefore contribute to, rather than diminish, weather deterioration of cotton duck.

Having demonstrated that the cotton duck has been protected by the total finishing composition, we conclude that the other ingredients of the finish (yellow iron oxide, lamp black, calcium carbonate, and antimony oxide) have supplied the protection from natural and accelerated weathering. These materials act as screening agents, thereby protecting the finish and the underlying fabric from damage from the destructive wave lengths of light.

The accelerated weather test is a useful tool in formulation development and production control. No claim for perfect correlation with outdoor exposure results is made; it is recommended that accelerated weathering results be checked with exposure studies.

Abstract of address by Lawrence L. Heffner of Wm. E. Hooper & Sons Co., at the Second Chemical Finishing Conference. The entire paper will appear in a future issue of "Textile Research Journal."

formation about size cooking procedure for homogenizers was as follows:

Mill K. We prepare Pearl starch for cooking same as thin boiling and cook for fifteen minutes after coming to a boil in 35 minutes. Formula: 175 pounds Pearl starch, 20 pounds compound, 10 pounds wax, 129 gallons water. Finish 175 gallons. Homogenizer pressure is 1,800 pounds.

No one had discontinued use of homogenizer, and no one had a homogenizer head crack for any reason. Homogenizers in these mills were operated at pressures ranging from 1,500 pounds to 2,000 pounds.

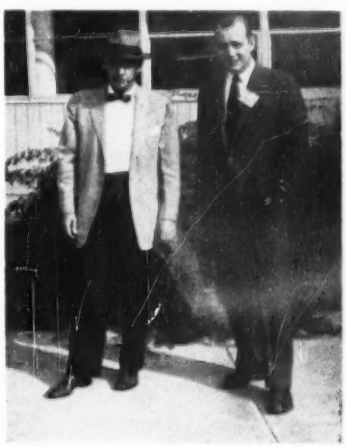
(Weaving Discussion next issue)

Steam Consumption at Slasher

Mill	Lb Steam Consumed Per Lb Yarn	Yarn No.	No. Ends	Cylinders on Slasher	Slasher Speed (YPM) @ 7½% Moisture
A	5 3.6	16 16	5,600 3,100	3	24 40
D	3.6	25—40	486— 3,226	———	50 — 70
H	2.12	14—26	1,766— 5,600	3	30 — 60
K*	3.5	8—20	420— 5,800	2 4	———
U	4.41 — 2.43	8—20	———	———	———

* Also has one hot-air type slasher.

SUPPLIER FRIENDS also came. Here are Miles Comer of Saco-Lowell Shops and Howard H. McCall of J. O. Ross Engineering Corp.



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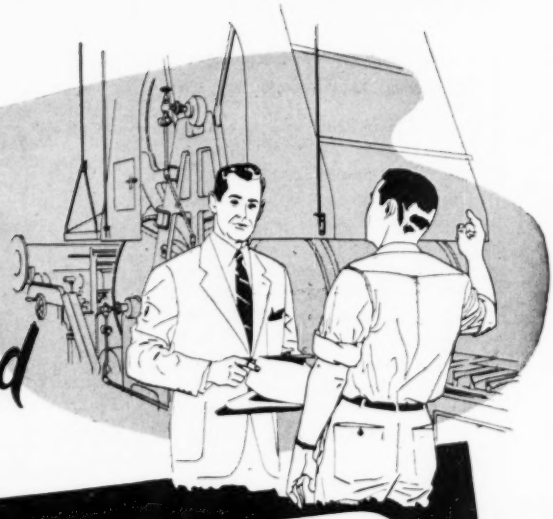

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3-3

HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Write to the Editors!

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta, Ga.

Reader Gives Pointers on Working with Foremen

EDITOR TEXTILE INDUSTRIES:

During the past several years I have worked with many foremen. My relationship with them has always been on a staff basis. My job is dependent upon getting these men to accept suggestions for improvements within their departments. Over the years I have worked with no less than 600 foremen in many different organizations. These men have always responded favorably.

There are no secrets to getting foremen to work with you. If you are successful in getting a start, the rest will be easy. I remember in one plant the management wanted to reduce seconds. After looking the plant over, we found one department where much improvement could be made.

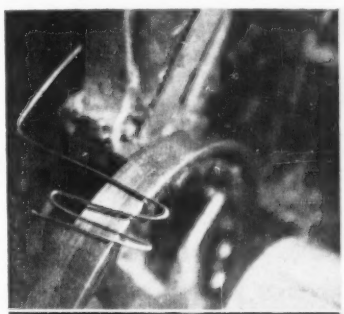
We had a choice of putting the foreman on the spot for not having already corrected the condition or asking his cooperation in correcting it. This he was glad to give, and we saw to it that he received proper credit. Soon this news got around. Foremen were sure of getting credit for their efforts after this instance. Improvements are still coming in from these men, and the mill is among the most competitive in the industry today.

Most of us have worked for many different types of managers. I recall one who was constantly hiring and firing foremen. His motto was "a new broom sweeps clean." Foremen were coming and going all the time. After the manager had pulled what he thought were all the ideas from a foreman, he found some excuse to let him go. Needless to say, word of his actions soon got around and the

Wheel Mop Helps Keep Weavers' Hands Clean

EDITOR TEXTILE INDUSTRIES:

I found a simple kink helpful in keeping weavers' hands clean when operating modified D and Model E looms. Dirt, moisture, oil, and grease accumulate on the brake wheel. As shown in the accompanying illustrations, I bent a piece of spring wire and bolted it to the loom arch, leaving enough spring in the wire so it rubs on the brake wheel.



Next, I folded a piece of press roll covering and fastened it to the wire so the fabric rubs on the wheel and keeps it clean, thereby saving the weaver a trip to wash his hands. This arrangement also prevents dirty ends because oftentimes the weaver may not bother to wash his hands. I have applied the same idea to hand wheels on dobby ends of XD Drapers where oil frequently accumulates.

CONTRIBUTOR No. 8608

STOP "time-loss" IN DRYING!

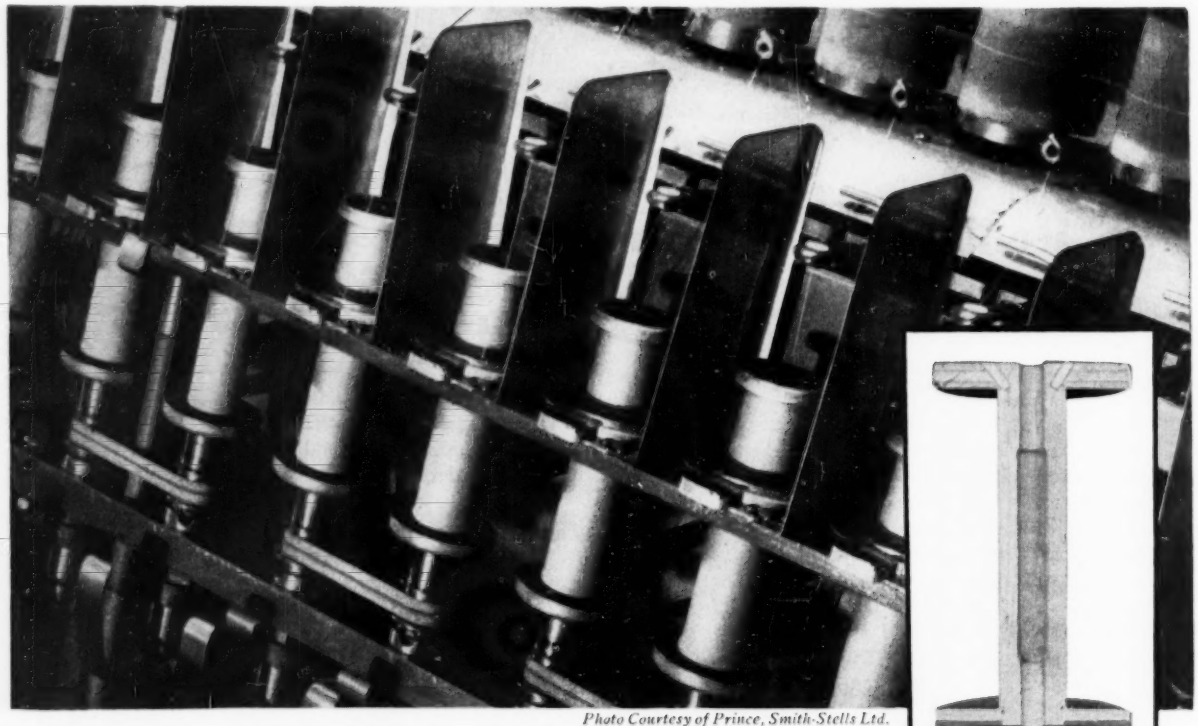
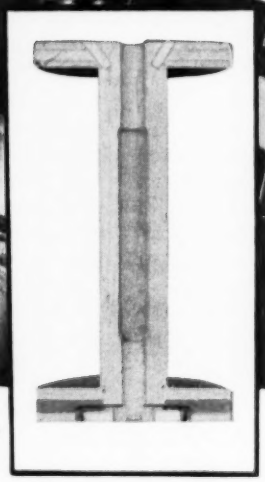


Photo Courtesy of Prince, Smith-Stells Ltd.



Cross section view showing machining details and bushings.

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quality of his applicants decreased. Today the manager is looking for a job because he did not know how to work with foremen.

There is another type of manager who likes to surround himself with a group of "yes" men. He refuses to delegate any authority to any one and insists on handling everything himself. He treats his foremen like so many unskilled employees. He provides his men with little or no opportunity for development. Foremen who work under such conditions never have the satisfying experience of "fathering" an idea of their own. Most of these managers are being removed by enlightened top management or stockholders.

There is another type of management where the top men are administrators. They claim no special knowledge of the industry. Their chief claim to fame is that they are expert administrators and good organizers. When they take over, the first move is to surround themselves with specialists. They listen very attentively to the specialist and soon begin to distrust the foremen. After the foreman is pushed around a few months, he decides to lay low and let the management "blow over." He will offer no suggestions and will work with the specialists in putting their ideas up to a point. This type of management doesn't last long because the foremen must be considered.

Before a man is permitted to occupy the position of manager, he should work as a staff man on jobs which would require close cooperation with foremen. If his success or failure were dependent upon getting enthusiastic cooperation from foremen, he would soon learn to get along with these men and like it.

Foremen to many management people are just a group of people to be "trained." Actually they are no different from other humans. They have their own desires and ambitions; they like to succeed, appreciate praise when it is deserved, don't like being pushed around or being talked down to, they like to get recognition for their ideas, and dislike other people stealing their ideas. Most foremen appreciate constructive criticism. They want to improve their skills but don't appreciate the kindergarten approach. They like to talk with the top management, and be kept informed on what is going on.

Many foremen are more cost-minded than other members of management. They want more information about how much per pound is lost on the various waste classifications, and cost of seconds. The foreman is in a better position than any other person in the management group to suggest savings on such items as job combinations, waste reduction, and quality improvement.

I have in mind a weave room foreman. His weekly payroll will exceed $12,000. Loss on seconds produced by his weavers amounts to $1,500 each week. Waste made in this department will be in excess of $3,000 loss in value each week. Supply usage is terrific.

Now suppose this man was satisfied to go along and meet his standards each week. Granted that a little push by management will keep him aware of the need for changes, wouldn't it be better to treat this man in such a way that he would want to keep beating his standards and find better methods to do his job? This man is not just another employee. Opportunities to lower cost of operation within his department are tremendous and limited only by the man's capabilities and opportunities to express himself.

Now there are two schools of thought on how to treat foremen. Some will say that the foreman should constantly be pushed. This means that we will surround him with every conceivable control so he will find it necessary to work nights to explain to some flunky why his department used an extra pound of grease last week. Under such management the foreman is being called to the office every few minutes to explain something.

There is always a conference scheduled at the very hour he is supposed to go home. He is supposed to do every thing requested of him by every one or explain why he didn't. It is so easy under such a system to take up all the foreman's time with small details and keep his mind off the management of his department.

There is the other school, in which I am a great believer, in which foremen are looked upon as managers within their departments. In this school responsibilities have been delegated to the extent these responsibilities are required to get results. The foreman is given whatever he wants as long as he can show tangible results. He is not constantly harrassed by clerks demanding explanations to

NEW KINK CONTEST!

$100 will be awarded the winner.

Send your entry now! This contest ends March 15, 1954.

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, March 15, 1954.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance—no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously.

Send your contest entry to:

Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

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It won't take long and it won't cost much for Ideal to get those flyers running s-o s-m-o-o-t-h-l-y . . . producing even bobbins and smooth, even roving. We'll loan you spindles and flyers while yours are being reconditioned. Here are your four steps toward better roving quality and increased production.

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AND A BONUS Ideal's repair and reconditioning service cuts roving frame wear way down.

If your flyers jump, wobble, vibrate, or choke up, they are costing you money. Write or wire for prices.

Ideal Machine Shops, Inc.

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29th Year of Continuous Service to Textile Mills

go on reports which no one ever reads. No one thinks of going into his department and requesting any information of a non-routine nature without permission from the foreman. Management does not decide upon installation of new equipment without submitting the proposal to the foreman for his approval.

When things go wrong the foreman is called in and asked what he is doing to correct the situation and what brought it about. The foreman is treated as an individual and is given the proper atmosphere to grow and develop his managerial ability.

Many readers may say that such a plan would not work with their foremen. If not, there is something wrong with the management or the foremen. If results cannot be achieved under this system, it is time some changes were made. If your foreman cannot be taken on as a partner, you do not have that plus factor in your organization which is somewhat essential to success in these times.

There are many things *staff people should remember* in working with foremen. Here are the four most important ones I can think of at the moment:

(1) *Never go to a foreman and tell him to do something without discussing the matter with him in advance.* If it has something to do with his department, he is most likely to offer a better way to accomplish the desired results. Too many times we are inclined to put words in the foremen's mouths.

(2) *Never carry tales to the foreman's boss.* If there is any one special type of people most foremen dislike it is staff people who are always getting their facts mixed when reporting something to the boss. Most foremen do not expect anyone to cover up for them. Unpleasant matters can be handled tactfully without putting people on the spot.

(3) *Never try to steal credit for what a foreman has done or is doing.* It is a great temptation to steal the limelight when some outstanding job is done and you have been a part of it. Overdoing the act will cause you to be branded as a rascal and you will find other foremen a little reluctant to work with you.

(4) *Never be too busy to assist a foreman with a problem.* It may not be your problem at the moment. Cooperation is a two-way street. Many times you will find yourself able to help the foreman out of a real trouble spot. Being helpful is one way to show the foreman you are sincere.

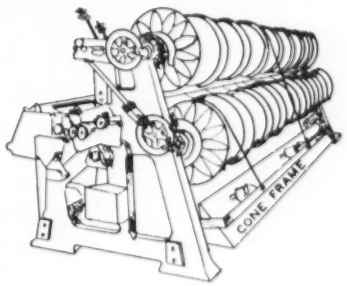
The foreman must be treated as an individual; he must be given a chance to develop; he must be given the backing and confidence of management. By setting an example of mutual helpfulness, you can expect your foremen to continue to find ways and means to reduce cost in the departments.

MONTY WRIGHT

Tension Board Improves Quality in Tricot Plant

EDITOR TEXTILE INDUSTRIES:

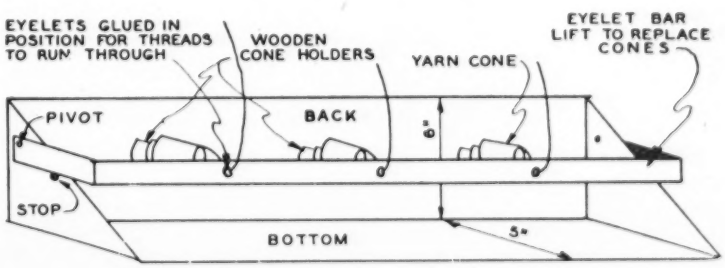
We have adopted a kink to assure better quality and adequate tension on lost threads in tricot warps while knitting. Formerly we had pull marks from lost ends when thread dropped down and caught under cone or running spools and threads tangled around the spool shaft. The kink permits the thread to pull off the cone as it does from a warping creel when being warped.

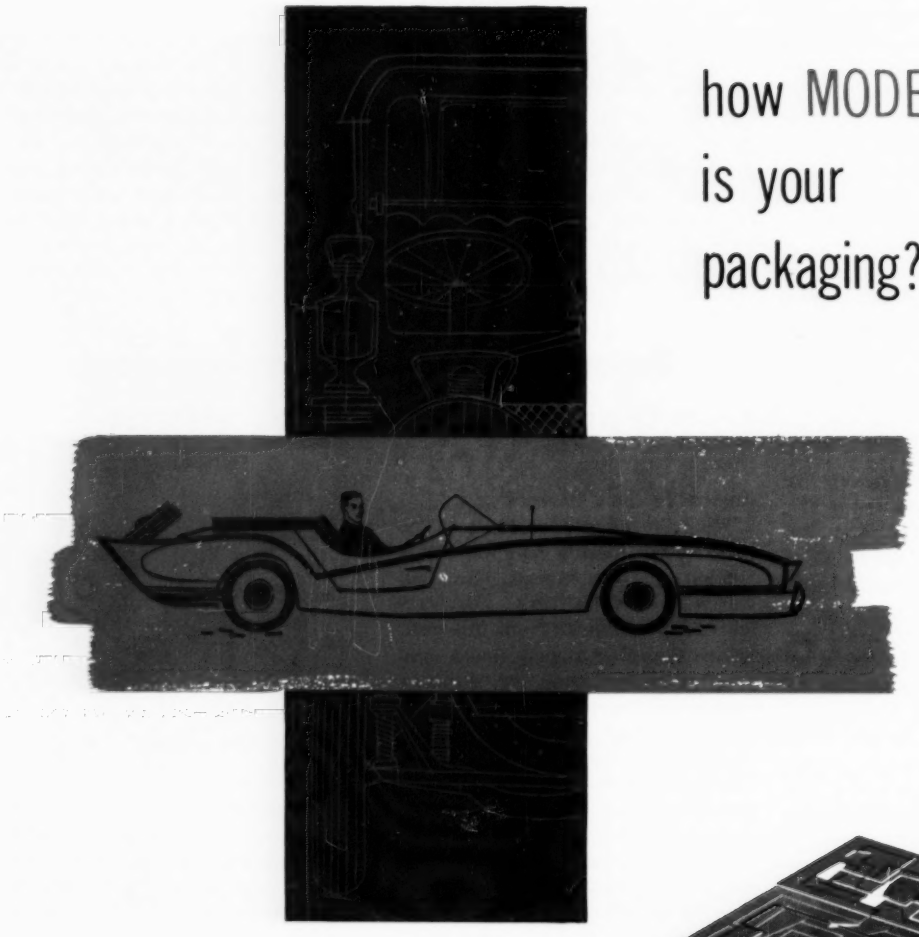


The thread is pulled through an eyelet and up to the bobbin from which the thread is missing. Then it is wrapped around that bobbin four times to be sure amount of tension on cone is same as on other threads coming from bobbins. This assures no shade marks from loose or tight threads and no pin holes or drag marks from snarling or chaffing.

Our cone frame fits between the rear legs of the knitting machine frame. The length of frame in this instance is whatever the length may be between the knitting machine legs. The back board is 6″ high; the bottom board is 5″ wide. Nail wood cone holders to the back board 5″ apart. Take a piece of flat stock ¾″ wide by ⅛″ thick cut to the required length to suit the machine. Bend both ends to 90° angles to provide 2″ clearance between eyelet that is set in this stock and tip of cone. This eyelet bar lifts upward to allow for cones to be put on and taken off with regular creel eyelets set directly in front of cones.

This frame also prevents vibration of machine from knocking over cones and tearing thread out of the fabric. The kink improved our quality considerably and cut down on stop marks which were caused by the extra cones usually run to replace missing or heavy threads. CONTRIBUTOR NO. 8607





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Clarification on "Machine Interference"

Reader response to the article "Machine Interference" (T. I. for August, 1953, pages 124-131) by Dale Jones, associate professor, School of Industrial Engineering, Georgia Institute of Technology, indicates that there is considerable interest in the subject.

Several have called our attention to erroneous mathematical symbols published, and we regret any inconvenience that might have been caused as a result of this.

Two correspondents have asked questions, the answers to which may be helpful to others using Professor Jones' tables for rapid estimation of average percentage machine interference, average percentage machine efficiency, and average percentage operator idle time.

The file of letters regarding his article was submitted to Professor Jones for his information and any comments that he might care to make. Corrections to his article and answers to specific questions about it follow.—The Editors.

EDITOR TEXTILE INDUSTRIES:

Several mathematical symbols contained in the formulas and examples cited in my article "Machine Interference" were incorrect and should be brought to the attention of those who are studying the article. They are:

Page 126, Column 2, Line 9: Instead of "(3.3 x 0.5) + (3.3 x 81.0) or 4.5%," it should read "3.3 + 0.5) ÷ (3.3 + 81.0) or 4.5%."

Page 126, Column 3, Line 9: Instead of "20 x (3.3 x 0.5) or 76.0 minutes of," it should read "20 x (3.3 + 0.5) or 76.0 minutes of."

Page 128, Fig. 3, Footnotes: Instead of "$M = 100 \times (K/L) \div (J/K/L)$," it should read "$M = 100 \times (K + L) \div (J + K + L)$."

Instead of "$O = (J/K/L) \div (100 - N)$," it should read "$O = \frac{100}{100}$ $(J + K + L) \div (100 - N)$."

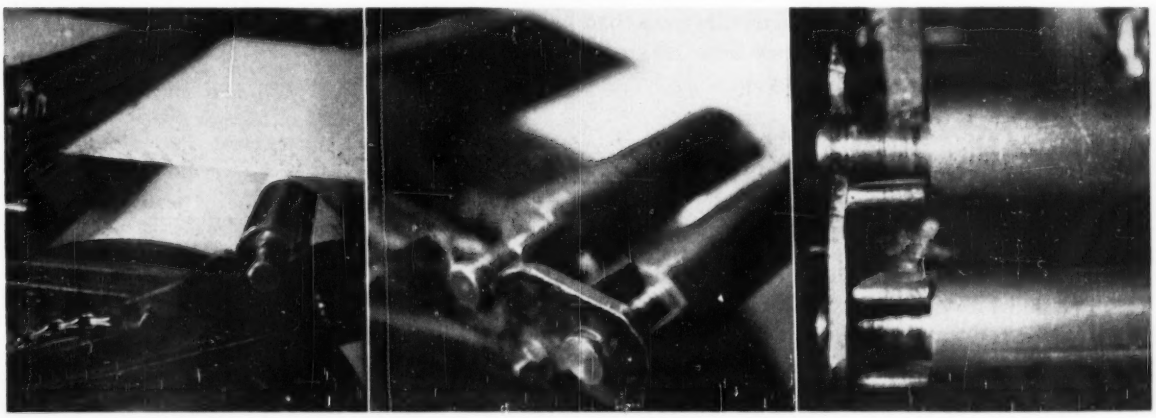
Page 129, "Development of Interference Tables," Column 2, Line 1: Instead of "per unit) or (S_a/S_r)

Double Whip Roll for Modified D Looms

EDITOR TEXTILE INDUSTRIES:

A double whiproll applied to Modified D looms has been a notable improvement in our weave room. The looms would not handle heavy goods very well, but after installing the double rolls we are able to run goods with a heavy pick and sley efficiently and with only a small percentage of seconds.

In order to get sufficient weight on warp we used to have to pile up the weight levers with heavy weights. With the double roll, we only need a limited number of weights to hold the warp. We have less edge trouble and no slippage on the sand roll with this arrangement. The accompanying illustrations show how the modification appears. CONTRIBUTOR No. 8601



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$\div (S_d/R)$," it should read "per unit) or $(S_d + S_r) \div (S_d + R)$."

Lines 22 and 23: Instead of "duties and interference: $d = S \times (1\text{-}i)/i$," they should read "duties and interference: $d = S \times (1 - i) + i$."

Line 51: Instead of "tuted in the formula: $d = S \times (1 - i)/i$," it should read "tuted in the formula: $d = S \times (1 - i) + i$."

Also, please amend Page 126, Column 1, Lines 29 and 30 which now read "down-time servicing time per loom per 10,000 picks produced" to read "down-time servicing time and 0.5 minute run-time servicing per loom per 10,000 picks produced."

DALE JONES

Question 1

EDITOR TEXTILE INDUSTRIES:

The article is proving of considerable assistance to us in measuring interference.

In our mill we have three-machine assignments and have attempted to work out another line in Table 1 for three machines. Part of our calculations show the following interference values: 90% = 13.5; 95% = 15.2; 100% = 17.0; 105% = 18.8; 110% = 20.6.

I should be most grateful for a check on these figures. In extending Table 1 we found the following formula (developed from the formulas in the article) cuts down on the work required:

$$(1 - i)^3 = \frac{S + (1 - S)\, i}{(1 - S)^3}$$

CONTRIBUTOR NO. 8633

Answer

EDITOR TEXTILE INDUSTRIES:

The figures derived by CONTRIBUTOR NO. 8633 are correct.

DALE JONES

Question 2

EDITOR TEXTILE INDUSTRIES:

I do not agree with the calculation of the working load and the idle time, since the operative can utilize the idle time for the "internal" servicing purpose. For instance, in Fig. 1 we neglect the "internal" servicing time first, and we have the work load for the "external" servicing time only is $3.3 \div 84.3$ or 4% approximately.

When tending the 20 looms, operator's total percentage work load will be $20 \times 4\% = 80\%$. From Table 1, matching 80 with 20 machines, we obtain 3.4% average interference per loom. The total times required per unit of production per loom is therefore $84.3 \div (100\% - 3.4\%)$ or 87.3 min. Now the idle time will be $87.3 - 20 \times (3.3 + 0.5) = 11.3$ min. The results will differ very much when the internal servicing time occupies larger portion than the example illustrated.

I am not sure whether my idea is correct or not; please communicate with the author.

CONTRIBUTOR NO. 8634

Answer

EDITOR TEXTILE INDUSTRIES:

There was an omission in line 29, column 1, page 126. After the words "3.3 minutes down-time servicing time" should be inserted the words "and 0.5 minutes run-time servicing." In the example it is assumed that this run-time servicing does contribute to interference. DALE JONES

Gentle Way to Close Fire Door

EDITOR TEXTILE INDUSTRIES:

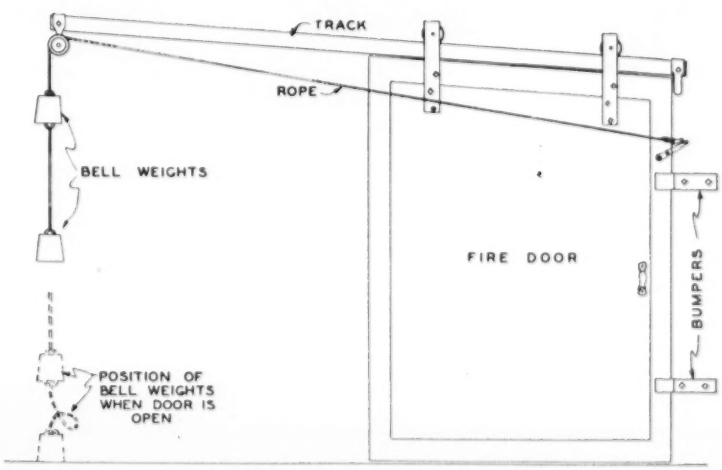
The fire door opening into our weave room constantly wore the rope and loosened the bumper in the wall. I told our maintenance man to work out some way to have it close easily without so much wear and tear. He contrived an idea which works very well.

The doors closed by their own weight. As they ran down the track they gathered speed and when almost closed, the weight attached to end of rope was pulled from the floor as the door banged shut. There has to be sufficient weight attached to the rope to make the door open easily but this was not enough weight to make it close easily.

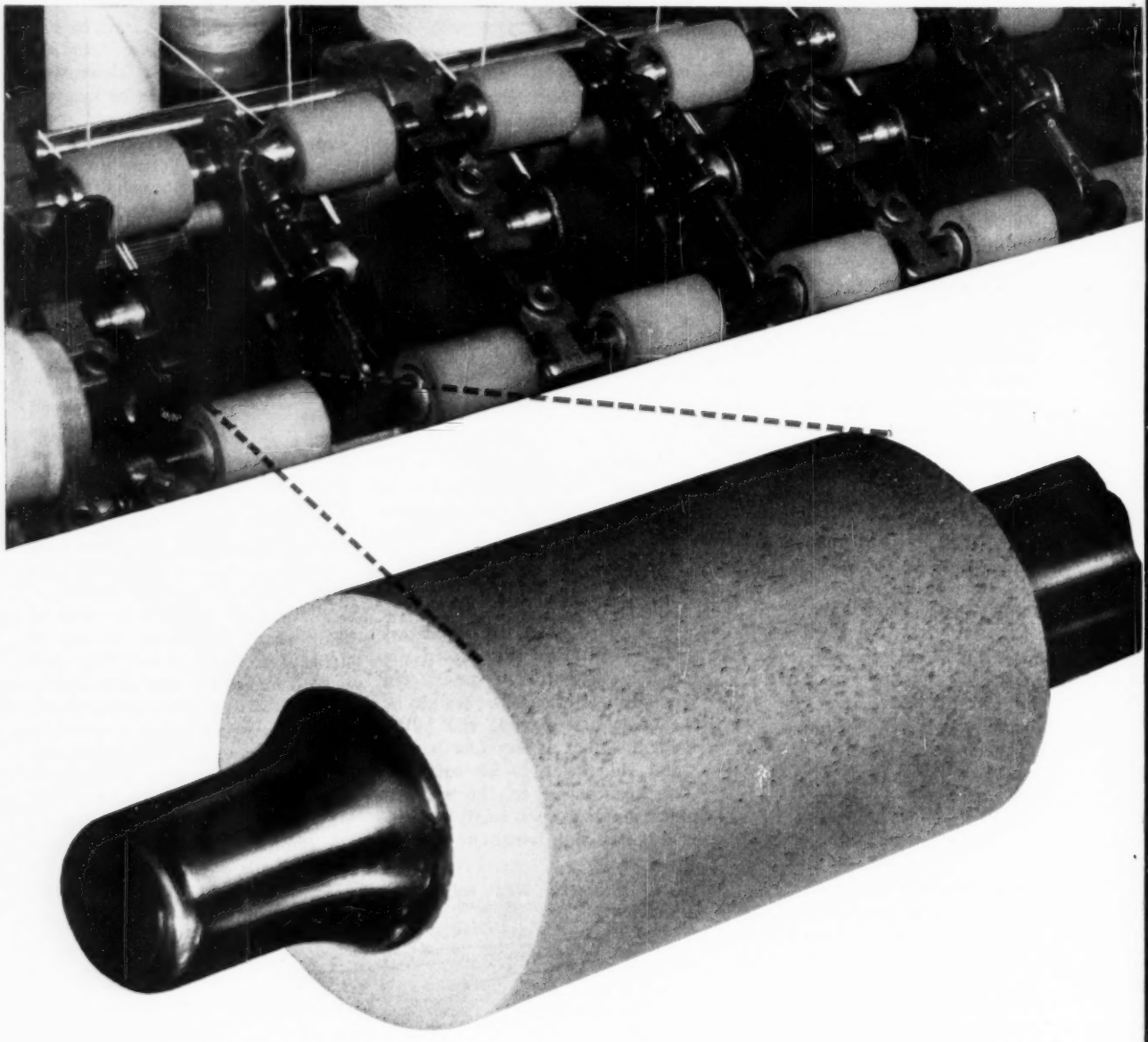
The problem was solved by using two smaller weights instead of one large one. These weights were attached to the rope about four feet apart. When the door begins to run down the track with this arrangement about three fourths of the way down the first weight is picked up from the floor and this slows the travel.

Just before the door is ready to bang shut, a second weight is lifted from the floor. This last weight makes the door shut gently without hitting the bumper hard. There is now a marked decrease in times the ropes have to be changed, and the bumpers have not become loose in a year. Also the tin shield which used to split from hitting the bumper so hard has not been repaired for a year.

CONTRIBUTOR NO. 8613



This cot's spinning surface



CLOSE-UP SHOWS HIGH-FRICTION SURFACE of NO-742-S cot. You can see for yourself that the drafting surface has the "bite" needed to carry loose fibers far back on the clearer, where they can't fall off and cause yarn irregularities or broken ends.

ARMSTRONG'S

has the "bite" you need to

STOP SERIOUS EYEBROWING

Even after months of spinning coarse yarn, Armstrong's newest Accotex Cot packs waste well back on the clearer.

The spinning surface of the NO-742-S cot on the opposite page is really unique. If you could run your fingers over the lap-resistant drafting face, you'd feel the tiny "teeth" that make this cot so effective in eliminating even the most serious eyebrowing.

The "bite" of this spinning surface carries waste fibers well back under the clearer board and packs them there. With normal picking schedules, you'll never have an eyebrow on frames equipped with NO-742-S cots.

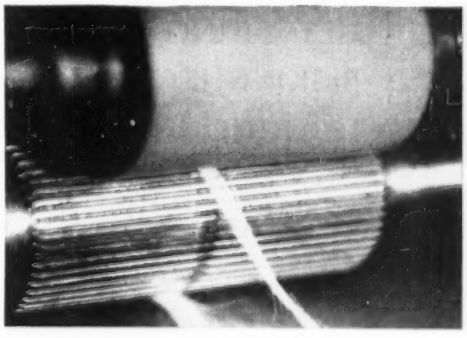
Needs only one buffing per year. The surface of the NO-742-S retains its high-friction "bite" for months. One mill supervisor spinning low-count yarn reports, "Your NO-742-S cots cleared up a bad eyebrowing situation in my spinning room. They run clean without slicking or glazing, too. As a matter of fact, I only have to rebuff them once a year."

A re-buffing schedule like this gives you excellent economy. It gives you longer cot life as well as savings in time and labor.

Mill-tested for 2 years. This newest Armstrong cot was tested in mills for over 2 years . . . tested on all kinds of spinning equipment, and on as many different types and counts of yarn as possible.

Mill after mill reported the same result—months of clean operation without eyebrowing.

If you have trouble with eyebrowing, test the NO-742-S in your spinning room. Ask your Armstrong man for samples or write Armstrong Cork Company, Textile Products Department, 6512 Ivy Street, Lancaster, Pennsylvania. Available for export.



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For spinning fine yarn, and for any count yarn with revolving clearers, Armstrong's J-490 Accotex® Cots have proved ideal in thousands of mills. Special electrolytes added to the J-490's long-wearing synthetic rubber composition make it highly resistant to lapping. The J-490 runs exceptionally clean, too—it's not affected by oil, dyes, or commonly used textile solvents. If lapping's a problem, call your Armstrong man today and arrange for a test side of these lap-resistant J-490 Accotex Cots.

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Loom Settings for Print Cloth Discussed

EDITOR TEXTILE INDUSTRIES:

Do mills on standard print cloths which change from both the feeler and the fork make the lizard crawl when the loom fails to change? That is, do they set the filling motion trip to let back one pick when the loom fails to change until it has let back three times, and if it still hasn't changed to stop?

What is the average number of looms assigned to weavers on 80 x 80 print cloth? We have 44" Model E Draper looms, making 45" cloth and have assigned 72 looms per weaver. Is that number unreasonable?

CONTRIBUTOR No. 8569

EDITOR TEXTILE INDUSTRIES:

In response to the question by CONTRIBUTOR No. 8569 regarding loom settings when weaving print cloth, we do not have feelers on our print cloth looms—we change from the fork.

As to the number of looms assigned to weavers, the standard set for weavers in our mill on 40" E Model looms consists of 60 looms; standard set for weavers on 40" Model X looms is 64. E Model looms run 165 picks per minute; X, 182.

CONTRIBUTOR No. 8570

EDITOR TEXTILE INDUSTRIES:

Mills on standard print cloths which change from both the feeler and the fork do, wherever possible, make the lizard crawl when the loom fails to change.

As for the other question asked by CONTRIBUTOR No. 8569, print cloth mills run from 72 to 104 looms to the weaver.

CONTRIBUTOR No. 8572

EDITOR TEXTILE INDUSTRIES:

In reply to the question by CONTRIBUTOR No. 8569,

(1) Mills on standard print cloths, which change on fork and feeler, normally require the loom fixer to set the loom so that the lizard will crawl when the loom fails to change, and on the third attempt, stop off the loom.

(2) As to the average number of looms assigned to weavers on 80 x 80 print cloth, I know of mills running more than 100 looms; however, I feel that your contributor's assignment of 72 looms per weaver is not unreasonable.

CONTRIBUTOR No. 8573

Good Housekeeping Aids

EDITOR TEXTILE INDUSTRIES:

We had our troubles keeping floors free of trash and paper until we found a system that is successful. Most of our older employees are tobacco chewers, and nearly everyone is guilty of throwing paper on the floor.

To begin with, we placed trash cans in the most convenient places, then we bought cuspidors made of cast iron with lids to be placed over the entire mill. These cuspidors are built on stands about waist high to eliminate stooping over to raise the lid, and to also make the mill more sanitary. Our mill janitor empties them once daily.

To further discourage people from spitting and throwing trash on the floor, we have painted a 4" strip in a different color than the floor along the base of each wall and stairway in the mill. It is only human nature when spitting or throwing trash on the floor to look for corners or crevices in which it can be somewhat hidden. By painting the strip as described people will stop and think before soiling a floor where everyone can see it; and when they stop and think, they usually will look for a trash can or a cuspidor. This has practically eliminated spitting on the floors in our mill.

CONTRIBUTOR No. 8619

Correction

The following corrections should be made to the article, "New Textile Fibers Created," by Jack Compton, W. H. Martin, B. H. Word, Jr., and D. D. Thompson which appeared in the October, 1953, issue of TEXTILE INDUSTRIES:

The following Table I should be inserted in the article in place of the one appearing in the article.

In Table II, the heading of the third column should be "Per Cent Decrease in Dye Used for Cyanoethylated Cotton Fabric." The word *decrease* is inserted into the heading of the column in the place of the word *increase*.

Table I. The Single End Strength and Elongation of Partially Cyanoethylated Combed Cotton Yarns

Yarn Count		% Nitrogen	Breaking Strength		Increase	
Designated	Actual	Content	Grams	Grams/ Denier	in Breaking Strength, %	Elongation, %
40/2	39.3/2	0	558	2.06	—	4.5
40/2	34.5/2	3.8	736	2.39	+16	6.5
60/2	58.8/2	0	318	1.76	—	5.0
60/2	55/2	3.4	410	2.15	+22	5.5

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the new *Totally-Enclosed Dual-Cooled* motor

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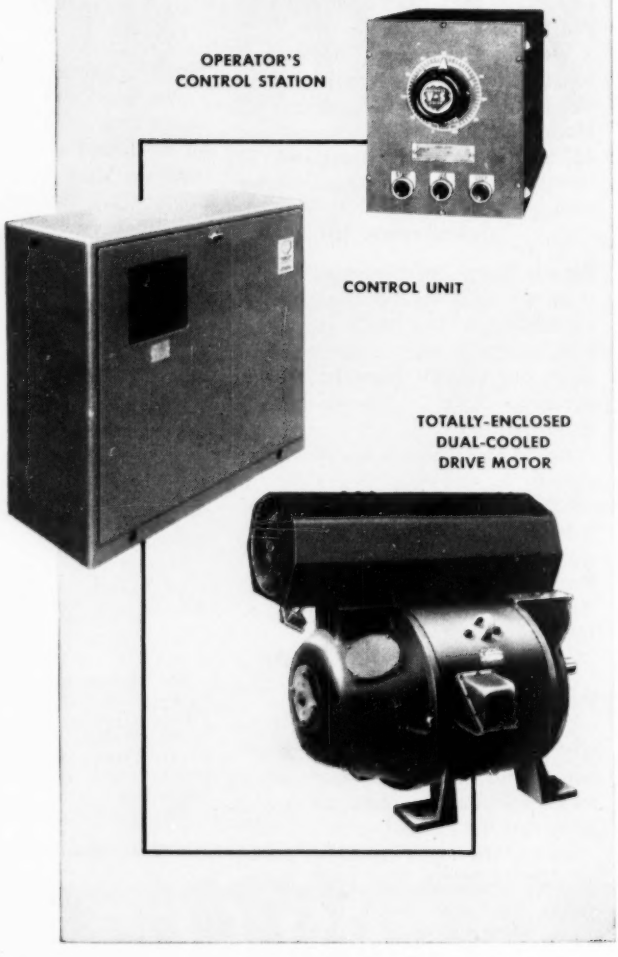

For continuous operation over extremely wide speed ranges . . . or wherever unusually severe operating conditions must be met . . . the new Reliance Totally-Enclosed Dual-Cooled Motor extends the application range of the V★S Drive. Wherever high ambient temperatures, intermittent operation, prolonged low-speed operation, or severe duty cycles pose difficult cooling problems, Reliance V★S Drive with Dual-Cooled Motors have proved to be the best answer. The new Dual-Cooled Motor is available either totally-enclosed or explosion-proof, conforming to Bureau of Mines and Underwriters' specifications, in ratings from 15 through 150 hp. D-1464

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Your request for Bulletin C-2201 will bring you this new booklet featuring large cutaway drawing with 3-color transparent overlay showing operation of Reliance Dual-Cooled Motor, together with fact-filled bulletin showing production increases and operating economies obtainable with Reliance V★S Drive.

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What the TEXTILE MILLS are doing

(Continued from page 30)

College nuclear reactor. The reactor, believed to be the first college-owned, will be used exclusively for peacetime developments of atomic energy across many areas of science and energy, including textiles. * * * Another evidence of its interest in textile education was the recent presentation of furnishings for the conference room at the A. French Textile School at Georgia Institute of Technology in Atlanta by Burlington Mills Foundation.

Belmont (N. H.) Hosiery Co. no longer maintains its treasurer's office at Franklin, N. H. All orders, correspondence, and any other business should be addressed to Belmont.

The House of Byer, Inc., manufacturers of children's hosiery, with plants in Cambridge, Mass., and Laconia, N. H., have consolidated operations of both plants in leased space in a part of the former **Sulloway Hosiery Mills,** Franklin, N. H.

Callaway Mills Co., LaGrange, Ga., has established a product development department as part of the firm's Research Division. The division will seek to broaden the product and market development activities of the mills. In keeping with its broader functions, the name "Research Division" has been changed to "Research and Development Division". * * * The company is sponsoring three Junior Achievement Companies designed to give youth an overall view of modern business procedures as they operate in the balanced interest of the consumer, employee, employer, and the investor.

The Clarkesville (Ga.) Mill, a subsidiary of the **United Merchants & Manufacturers,** has contributed funds for half the cost for installation of an electric whiteway in the business area of the city.

It is planned that about 400 persons will be employed in the plant to be established in Sentobia, Miss., by the **William Carter Co.,** Needham Heights, Mass., for manufacture of underwear. Building to house the mill is to be leased to the firm by the municipality.

Two new mills have recently been placed into operation by **Clifton Mfg. Co.,** Converse, S. C.—one a weaving mill, Clifton No. 5, has 560 new looms and is located adjacent to Converse Mill; the other, Clifton No. 4, is housed in a four-story building formerly utilized as a warehouse. One floor is used for storage, one for spinning, one for weaving, and another for laundry.

Tiara Carpet Mills, Inc., has taken over and will succeed **Bilt-Mor Rugs, Inc.,** 308 West Erie St., Chicago, Ill. Cotton rugs and carpets will be produced as heretofore, and an expansion program is under way for increased manufacture. A. H. Noelke is president of the new company.

Coquet, Inc. has been chartered to operate a knitting mill near New York City for the manufacture of outerwear. Samuel J. Penn, 290 Empire Blvd., Brooklyn, N. Y., is attorney and representative.

Shortly before Christmas, **Dexdale Hosiery Mills** will begin retailing 75-gauge, 12-denier hosiery. Twenty-

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And the reasons for the change are much the same as in hundreds of other mills. Experience proves Gaulin-Homogenized Size makes a stronger, more elastic yarn . . . that sheds less . . . and breaks less at the loom and slasher.

But more important are the savings in starch costs. Most mills find Gaulin Homogenization permits them to change to the cheaper pearl starch — with the same or even better results. One more reason why Gaulins generally pay for themselves in less than a year.

If you haven't tested Gaulin-Homogenized Size in your mill yet — write for the full facts on Gaulin *guaranteed* performance, today.

SYNTHETICS — WORSTEDS

Mills are now using Gaulin Homogenizers to prepare more uniform sizes for Synthetics and Worsteds, too. Sizes are made finer, faster and at substantially lower costs according to field reports.

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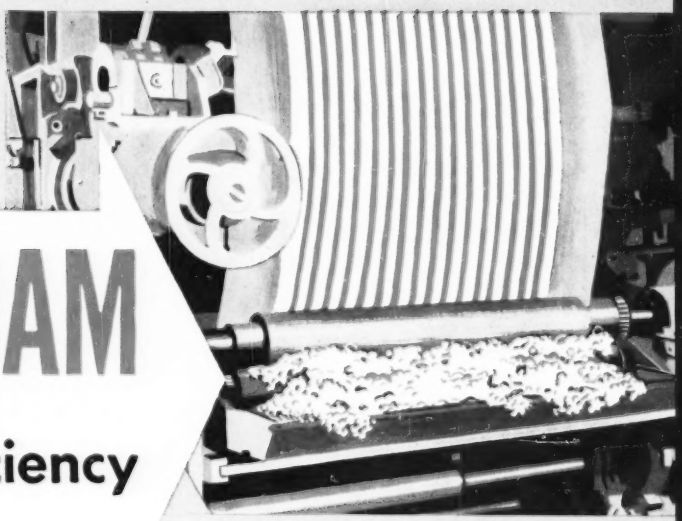

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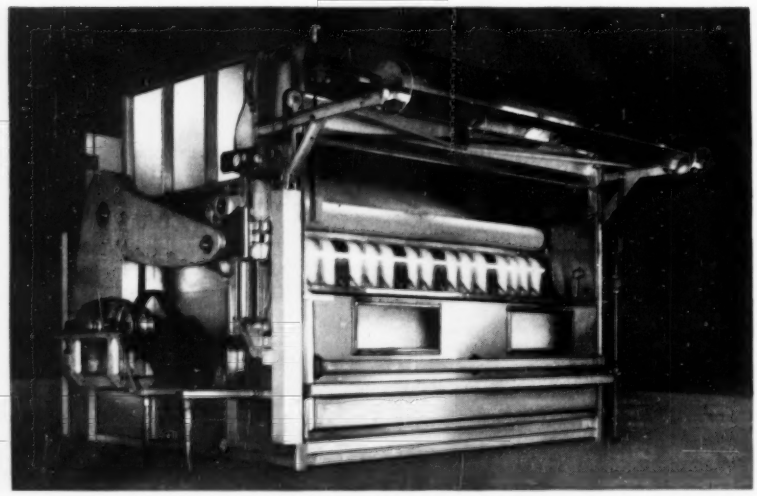

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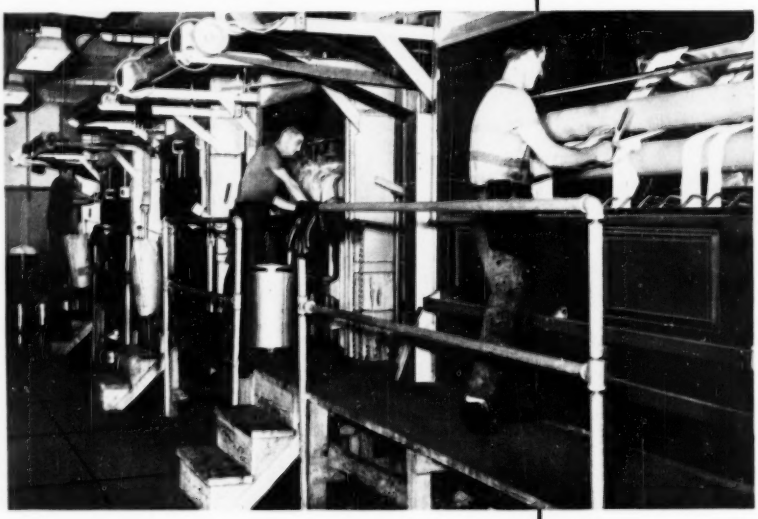
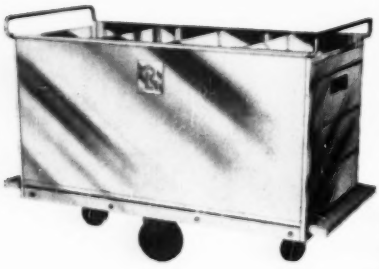


One of Many Mill Installations Producing Knit Goods for the Industry.



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four 75-gauge single-head knitting machines are in production there.

Fair-Tex Mills, Inc., Catasauqua, Pa., manufacturers of knitted fabrics, have developed a new handy color card which makes it easy for knitgoods manufacturers to combine colors.

Operations of the **Flamingo Knitwear, Inc.,** recently organized to manufacture outerwear, have begun in Los Angeles, Calif.

Hughston M. McBain, chairman of Marshall Field & Co., and E. Stanley Klein of John P. Maguire & Co. of New York have announced that Fieldcrest Mills have been purchased by a new corporation to be known as **Fieldcrest Mills, Inc.** All of the nine mills in Virginia and North Carolina will operate on their present basis and the company will continue the same employment policies, including pension plans and benefits that existed under Field's ownership. Milton C. Mumford, previously general manager of the mills for Fields, is president of the new corporation and Harold W. Whitcomb, formerly in charge of the mills, is vice-president in charge of mill operations. James C. Walsh is secretary and treasurer.

Georges River Woolen Mills, Warren, Me., have been acquired by new interests headed by Bernard Goldfine and L. F. Jealous. Operations at the mill will be continued without change.

The Taylor, Pa., weaving mill and part of the equipment of **Goodman & Theise, Inc.,** have been purchased by **Hess, Goldsmith & Co., Inc.** for increased production of industrial and decorative broad woven goods of glass fiber and nylon fabrics. The plant is a one-story building covering 48,000 sq ft.

A series of conferences on "How Our Business System Operates" is being conducted at **Seminole Mills** in Statesville, N. C., under the direction of Dan Berini, personnel manager. Consisting of three sessions, one week apart, the series will be continued until all employees in the plant have had an opportunity to participate.

Hudson Hosiery Co. of Charlotte, N. C., has completed negotiations for the establishment of a full-fashioned hosiery knitting mill near Tokyo, Japan, under joint ownership with **Katakura Industries** of Tokyo. Twenty 51-gauge, 26-section machines for the new mill were shipped from Hudson's Oakhurst plant.

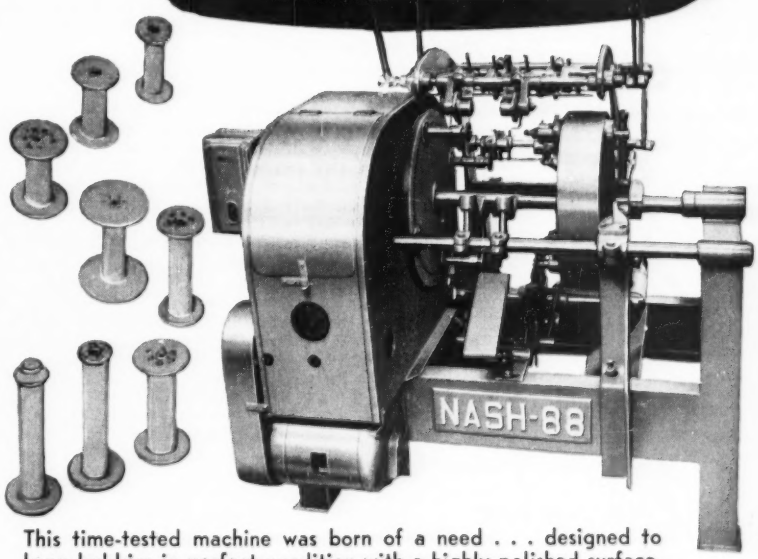
An "Achievement Committee" has been organized at **Huntsville Mfg. Co.** in an effort "to bring recognition to those who think . . . and bring about improvements in machinery and methods." All employees are invited to present new ideas to the committee for evaluation.

Operations of **Ithaca (N. Y.) Tex-**

What the TEXTILE MILLS are doing

☞ **A SUBJECT INDEX** of articles appearing in TEXTILE INDUSTRIES during 1953 has been prepared for your convenience and is loosely bound in this issue. We urge you to retain it in a handy place for reference when problems arise in the mill. — The Editors.

Keep your BOBBINS in TOP CONDITION at LOWER COST with the No. 88 NASH Automatic BOBBIN REFINISHER



This time-tested machine was born of a need . . . designed to keep bobbins in perfect condition with a highly polished surface, and assure a *better run-off of yarn.* The Nash 88 has won highest praise from users everywhere. It assures uniform, smooth-surface reconditioning with a saving of labor cost.

HERE ARE SOME OF ITS FEATURES:

- Handles most types of flanged bobbins . . . easily adjusted to range of shapes and sizes.
- Separate burnishing assembly produces a highly-polished surface of uniform quality.
- Abrasive action takes place on barrel portion inside flanges and top radius of flanges.
- Its high speed (10 bobbins per minute) requires only minimum set-up time.
- Nash quality means fine performance and low maintenance cost.

Nash also builds Automatic Bobbin Sanders, Automatic Quill Polishers, Automatic Round Stock Sanders, and Special-Purpose Machinery.

SPECIAL FINISHING MACHINES · SINCE 1890 · NASH

WRITE FOR COMPLETE DESCRIPTIVE LITERATURE

J. M. NASH COMPANY

Dept. 88, 2390 No. 30th Street, Milwaukee 10, Wisconsin

Star Studded Program FOR 1954

Textile advertising dollars work harder in TEXTILE INDUSTRIES advertising pages.* They will really work overtime, effectively tied in with the five star-studded "extras" in 1954. Mark up your textile calendar for:

February

The Sixth Annual Case History Reports issue will tell readers how mills have used equipment to achieve increased production, reduced costs, improved quality, better working conditions, etc. In this issue, the editors will call equipment by name, giving actual savings on returns on the investment, telling how the equipment was used, citing the benefits achieved and giving the names of the plants. This issue is a major feature of the year's editorial program and offers advertisers a remarkable opportunity to reach mill men while they are acutely conscious of the benefits to be derived from the installations of new and improved equipment. . . to tie in with actual installation copy.

April

The American Textile Machinery Exhibition at Atlantic City, April 26-30, will be the largest and most impressive exhibit of textile machinery, supplies and equipment ever held in the U. S. A. Textile machinery manufacturers are putting the emphasis on aggressive selling. TEXTILE INDUSTRIES started promoting this exhibit in April 1953. More textile manufacturing and production executives—superintendents and officials read TEXTILE INDUSTRIES than any other publication. April issue will reach this audience well ahead of the show promoting attendance and will also be distributed at the show—the largest distribution and readership of the year. Exhibitors will gain added interest. Non-Exhibitors will get show interest—for their show "on paper."

September

The 33rd Annual Convention of the AATCC and South's First Wet Processing Show will be held in Atlanta, Georgia, September 15-18. TEXTILE INDUSTRIES has the largest editorial and circulation coverage of dyeing, bleaching and finishing plants of any general textile publication. The September Issue will cover the Atlanta meeting and show with full circulation weeks ahead of the Atlanta convention and added distribution at the Show. It will be of interest not only to AATCC members, but to the full wet processing trade—a natural for advertising dyestuffs, chemicals, soaps, dyeing and finishing machinery, instruments, metals, pumps, etc.

October

The 18th Southern Textile Exposition at Greenville, S. C., October 4-9, will be the largest ever held in the South. Machinery and supply exhibits will get interest of top brass and operating personnel of all major Southern mills as well as from representative mills throughout the industry. Published for 55 years in the Southern textile field, TEXTILE INDUSTRIES has actively sponsored the Greenville Show, since its inception. The October Issue of TEXTILE INDUSTRIES is *the* Show Issue for Greenville—the widest possible readership among Southern mills.

November

15th Modern Equipment and Processing Issue—TEXTILE INDUSTRIES was the first among textile publications to recognize the interest in new equipment and processes and the first to issue a consideration of such items as early as 1931. Starting as a biennial review the inquiries and reader response made this feature an Annual Issue—the biggest and best read new equipment issue in the industry.

******Advertising dollars work harder in TEXTILE INDUSTRIES because they buy more mill readership in U. S. A. and Canada—the only full unit coverage plus mill penetration for effective textile selling.*

Textile Industries

806 Peachtree Street, N. E.
Atlanta 5, Georgia

What the TEXTILE MILLS are doing

Daniel Construction Co.

NEW SENECA, S. C., WORSTED YARN MILL

Here is **Abbot Worsted Co's.** recently completed two-million-dollar worsted yarn mill in Seneca, S. C. The 92,000 sq ft, one story building is totally enclosed and air conditioned and finished in glazed tile throughout.

tiles, Inc., manufacturers of knit underwear, have been moved to 402 East State St. of that city.

As one step in a program involving revamping and modernization of the firm's spun synthetic operation, **Textron Incorporated** has announced the closing of its Vass (N. C.) Mills, due to their remoteness from other company mills. The production of this plant will be handled by other mills of the company.

West (Tex.) Textile Mills, Inc., was recently sold to Horvath Bros. of New York, N. Y.

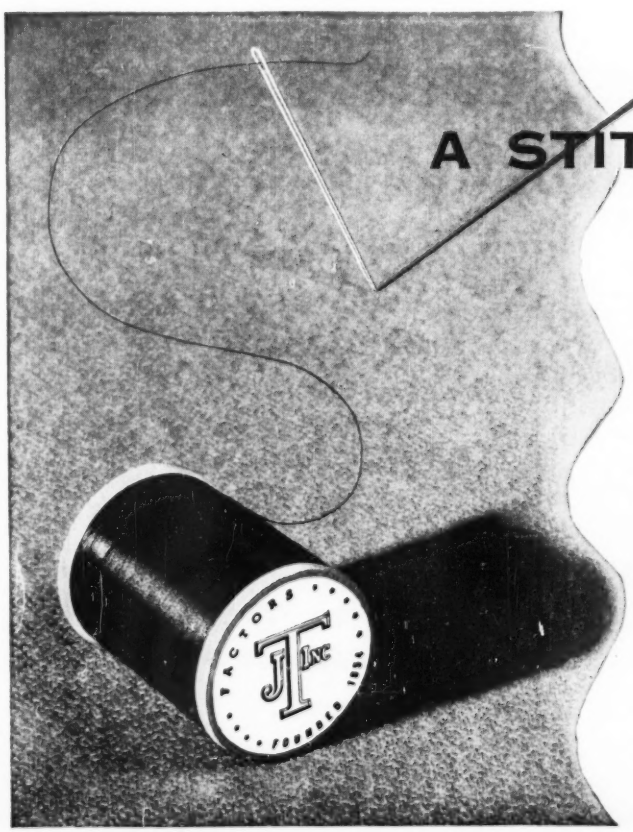
The Scottsville, Va., plant of **United States Rubber Co.** has established a record of seven years without a disabling accident. During its seven years of operation, the plant has received 18 national, state, and company safety awards.

A new plant is being built in Seneca, S. C., by the **Jantzen Co.** of Portland, Ore., for the manufacture of swim suits. The building is completely air-conditioned, providing 24,000 sq ft floor space for the sewing mill.

New owner of the **George Mabbett & Sons Co.,** Plymouth, Mass., worsted weaving mill, is Bernard Goldfine, president of Lebanon Woolen Mills Corp. Improvement and modernization of the buildings and equipment are planned.

Kimball & Taylor Hosiery Mills is a new concern manufacturing men's hosiery in a part of what used to be the **Sulloway Hosiery Mills,** Franklin, N. H.

James Lees & Sons Co., Bridgeport, Pa., received the "Best of In-



A STITCH IN TIME

Compared to possible credit losses, the cost of protection provided by Talcott factoring is very low.

Factoring also saves on operating costs through reduction of your bookkeeping, clerical and collection expenses.

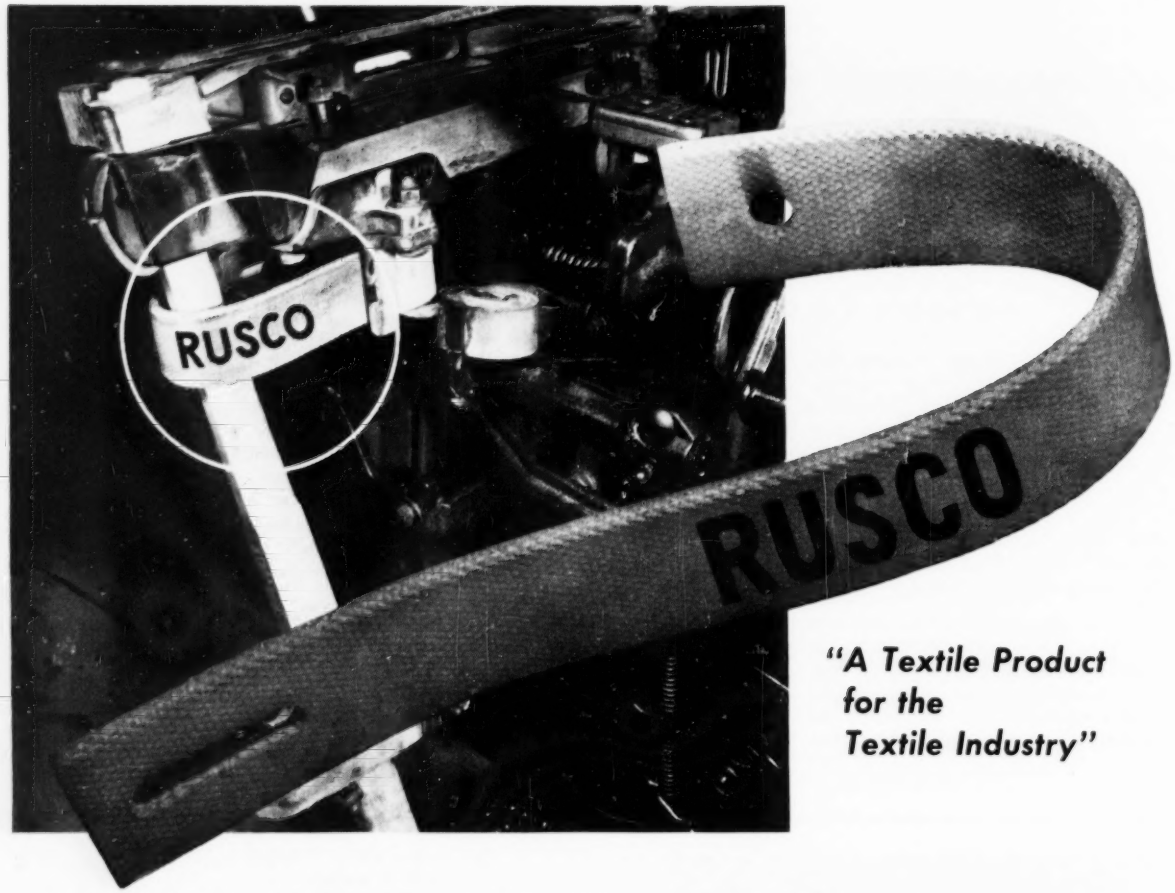
Would you like the full story on the cost-saving features of Talcott factoring? Just call or write. We'll be glad to send a representative to your office.

James Talcott, Inc.

Since 1854

225 Fourth Ave., New York 3, N. Y.

ORegon 7-3000



"A Textile Product for the Textile Industry"

NEW RUSCO FIBER CHECK STRAPS END ADJUSTMENT WORRIES

MONDAY MORNING ADJUSTMENTS ARE ELIMINATED when you install Rusco Fiber Check Straps. This exclusive material WILL NOT STRETCH NOR SHRINK. RESULT—INITIAL SETTINGS REMAIN CONSTANT THROUGHOUT THE LIFE OF THE STRAP.

Rusco Fiber Check Straps cost less and last longer. Loom Operators all over the country are standardizing on Rusco Fiber Check Straps. LET US HELP YOU CUT COSTS by installing or supervising the installation of these high efficiency check straps on your looms. Write for details, today!

CHECK BETTER
LAST LONGER
WILL NOT STRETCH
WILL NOT LOOP
NOT AFFECTED BY HUMIDITY
NO ADJUSTMENT AFTER INSTALLATION
LESS COST THAN LEATHER

A Product of **THE RUSSELL MANUFACTURING COMPANY**
Middletown, Conn. · Atlanta, Ga. · Bennettsville, S. C.
For Complete Information, Specifications and Prices, Write:
MATTHEWS EQUIPMENT COMPANY, Providence, R. I., Atlanta, Ga., Greenville, S. C.

dustry" honors from the Direct Mail Advertising Association, Inc., for the carpet manufacturer's campaign in connection with a retail "home service" merchandising effort. * * * A new one-story addition to the Bridgeport mill is for warehouse and distribution service.

A new three-story, brick addition 90 by 80 feet at **Linn Mills Co.** of Concord, N. C., will house spinning and winding machinery.

To increase its capacity, the **Normandy Print Works,** New Bedford, Mass., is installing additional dyeing and finishing equipment.

Plans for a new one-story addition at **Opp (Ala.) Cotton Mills,** to be equipped as a weave room, have been approved.

Profile Cotton Mills, Jacksonville, Ala., have been acquired by interests connected with **Horvath Mills, Inc.,** New York, N. Y. Operations will continue without change. Expansion program for increased production is being planned, according to reports.

Approximately 450 employees attended the recent annual **Roanoke (Va.) Mills, Inc.,** picnic, highlight of which was the beauty contest. Winners of the Miss Roanoke Mills and Mrs. Roanoke Mills titles were presented outfitted travel cases. * * * A 72 by 100-foot addition to house the dyeing and drying operations for the mill is under construction.

Reeves Bros., Inc., New York, N. Y., has purchased Vulcan Rubber Products Inc., Brooklyn, N. Y., producer of industrial coated fabrics, etc.

E. A. Stephens and A. E. Johnson have recently purchased all of the stock of the **Rocky Mountain Textile Mills, Inc.,** Denver, Col. There will be no change in the overall operation of the firm which produces men's hosiery and women's anklets as well as sales yarn. The hosiery department will continue to be known as "The Rocke Corp."

A new corporation to manufacture outerwear, **Sierra Knitting Co., Inc.,** New York, N. Y., is represented by Florence Niedergang, 11 West 42 St., New York, N. Y.

A three-million man-hour goal without a lost time accident was recently attained by the 1600 employees of Appleton Company Division of **J. P. Stevens & Co., Inc.**

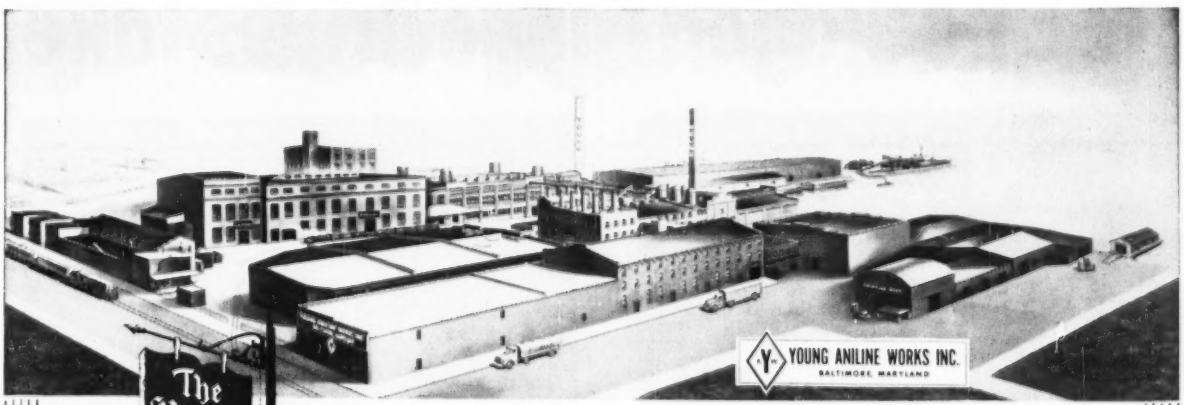
What the TEXTILE MILLS are doing

Verney Corp.'s Manchester, N. H plant is now engaged solely in the weaving of filament synthetics, yarn preparatory machinery having been moved to the Brunswick, Me., fully integrated spun rayon unit.

Manhattan Wool Waste Corp., recently organized, will manufacture wool clips and similar products. Jacob Sternlicht, 955 Sheridan Ave., Bronx, N. Y., is attorney and representative.

A one-story building is being constructed at Starkville, Miss., for use by **Lockport Felt Co.,** Newfane, N. Y. It will contain about 30,000 sq ft floor space.

Magee Carpet Co., Bloomsburg, Pa., is now producing a new line of cotton rugs and has installed equipment including a 20 ft wide dyeing machine.



The House of Blacks

ACID BLACKS • DIRECT BLACKS
ACETATE BLACKS • LOGWOOD BLACKS
FORMALIDE BLACKS • DEVELOPED BLACKS

Consult your local dyestuff distributors for information and samples. Shipments can be made from their convenient stocks or from our Baltimore or Paterson warehouses.

YOUNG ANILINE WORKS, INC.

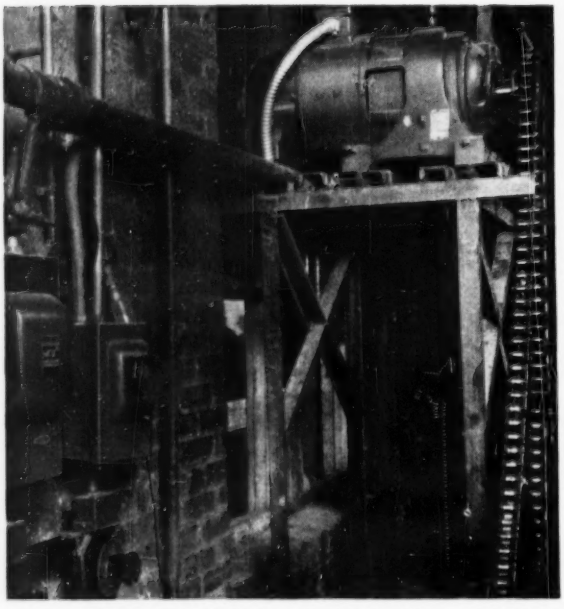
PATERSON OFFICE
50 E. 13th St., Paterson, N. J.

OFFICE AND FACTORY
2701-2733 Boston St., Baltimore 24, Md.

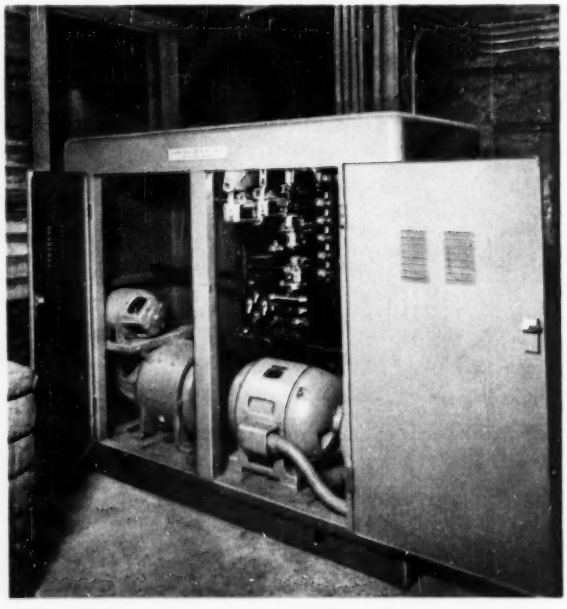
ENGINEERING REPORTS:

MAN-HOURS REDUCED—One operator co-ordinates over-all speed of No. 1 finishing range simply by turning speed-control rheostat. For closer adjustment of the speed and tension between Tommy Dodd, No. 2 dry cans, and padder, a rheostat is provided for each motor. Resulting accuracy means that range operation will be simple, speedy, and economical.

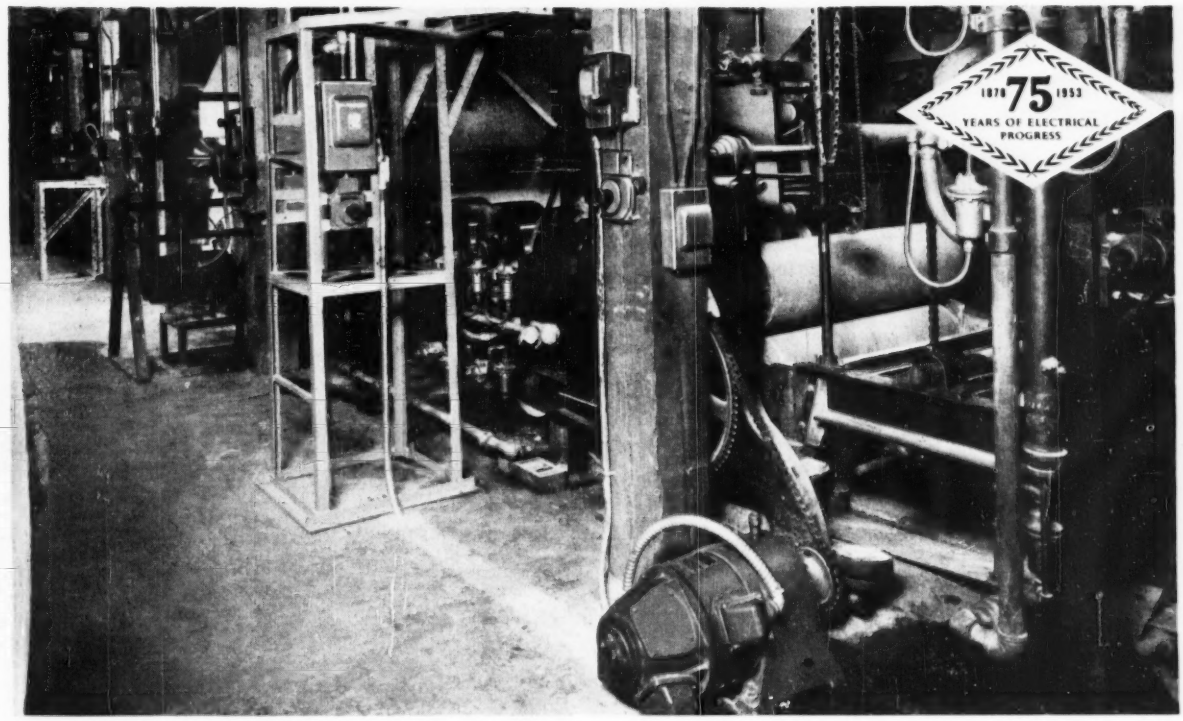
"G-E packaged range drives take



CLOSE TENSION CONTROL is provided by this powerful G-E gear-motor which drives the Tommy Dodd for the No. 2 finishing range. Finer quality dyeing is thus made possible.



PRODUCTION AREA SPACE SAVED—Compact design of 50-hp G-E packaged power unit made locating it away from the work area easy. Unit is delivered ready to operate.



COMPACT, UNIFIED LAYOUT of the remainder of the No. 1 finishing range is shown here. By installing a G-E packaged drive, the production area could be planned more efficiently, and working conditions improved. Compensating gate rheostats throughout the range automatically keep fabric tension, speed more accurate, respond quickly for smooth co-ordination.

the guesswork out of finishing"

"They're our best modernization expenditure," adds A. J. Leaderman, President of Rockland Bleach and Dye Works

"Our experience with our two new General Electric packaged range drives has been gratifying . . . they have taken the guesswork out of range work," reports A. J. Leaderman, President of the Rockland Bleach and Dye Works in Baltimore. "We feel that they have been our best expenditure out of more than a half-million dollars we have spent on modernization." Here's why:

Installation costs were low

All of the G-E equipment in the adjustable-voltage d-c drive systems were supplied in easy-to-handle "packages." These units were standardized—mass-produced—to lower costs and simplify installation. All were factory-wired and tested, delivered ready for operation. The flexibility of this equipment permits Rockland Bleach & Dye to make plant-layout changes easily and quickly.

Operations prove highly efficient

Any desired operating or jogging speed within a wide speed range can be set on the two new G-E packaged drives. Over-all speeds are easily controlled from a central station. Compensating gates provide close co-ordination of all motors. The drives accelerate and decelerate smoothly and quickly. Finishing operations are more flexible—individual units can be disconnected from either range.

G-E application engineers co-operated closely with Rockland engineers to unify these two drive systems. If you plan to install a new range, or extend or modernize an existing one, they can help you the same way. Ask your local G-E Apparatus Sales Office about it. General Electric Company, Schenectady 5, N. Y.

654-30

Engineered Electrical Systems for Textile Mills

GENERAL ELECTRIC

Need low cost, quick assembly, long bearing life?

here's how manufacturers of automotive components get them with NEEDLE BEARINGS

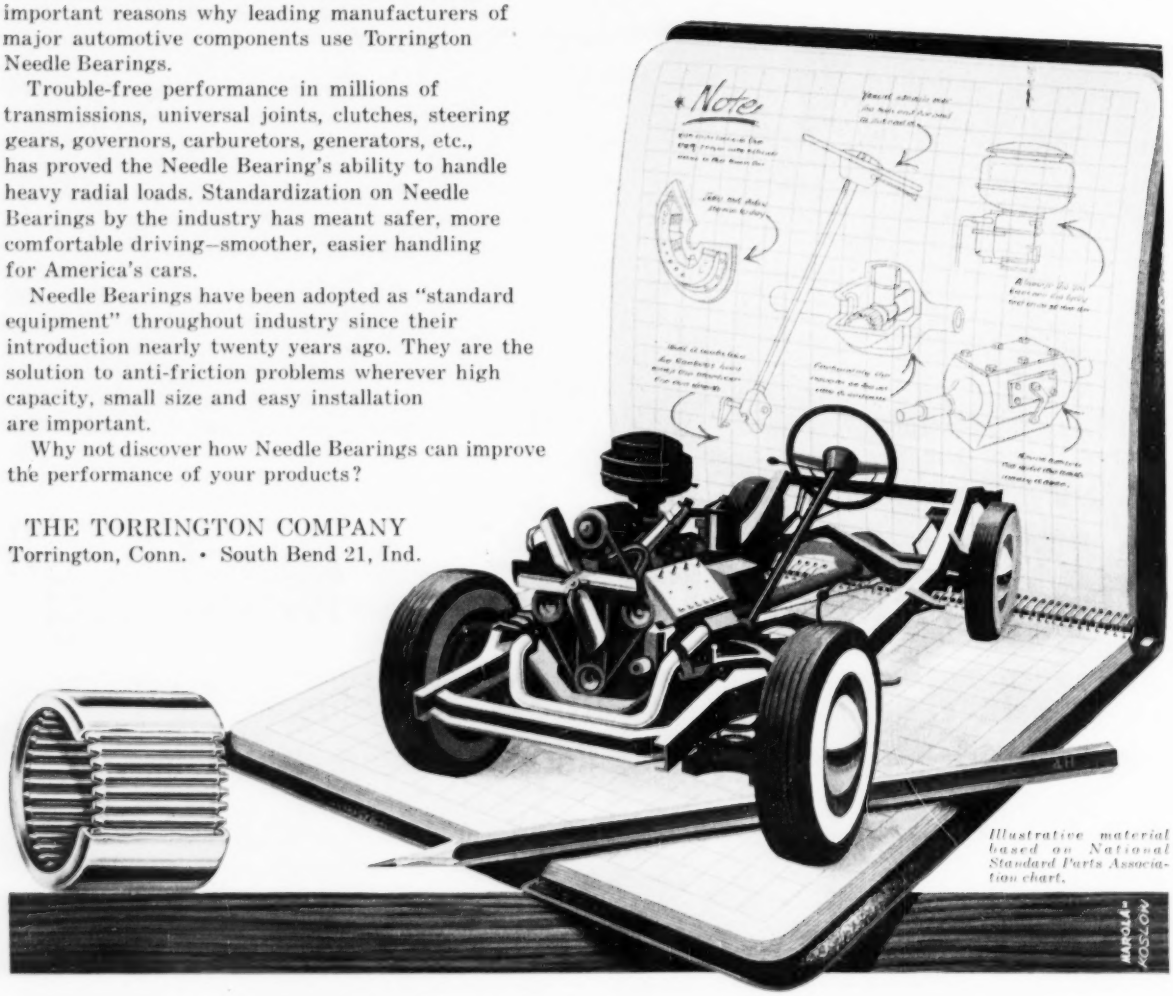
Low initial cost and ease of installation are two important reasons why leading manufacturers of major automotive components use Torrington Needle Bearings.

Trouble-free performance in millions of transmissions, universal joints, clutches, steering gears, governors, carburetors, generators, etc., has proved the Needle Bearing's ability to handle heavy radial loads. Standardization on Needle Bearings by the industry has meant safer, more comfortable driving—smoother, easier handling for America's cars.

Needle Bearings have been adopted as "standard equipment" throughout industry since their introduction nearly twenty years ago. They are the solution to anti-friction problems wherever high capacity, small size and easy installation are important.

Why not discover how Needle Bearings can improve the performance of your products?

THE TORRINGTON COMPANY
Torrington, Conn. • South Bend 21, Ind.



Illustrative material based on National Standard Parts Association chart.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Cylindrical Roller • Tapered Roller • Ball • Needle Rollers

Trade marks of some of the leading automotive component manufacturers whose products enjoy the benefits of Needle Bearings.

DETROIT UNIVERSAL JOINTS · Spicer · STEWART-WARNER · HOPPOMATIC · DETROIT GEARS · ROCKFORD CLUTCH DIVISION · GEMMER MANUFACTURING COMPANY · CLEVELAND UNIVERSAL JOINTS · WARNER GEAR CO. · KS · Accepted SAE Standard

News in Brief

(Continued from page 79)

1955. Compared to purchases of $500 million for such soft goods in fiscal 1953, purchases in the next two fiscal years should amount to about $100 million annually.

Airfreight Rate Comparison Guide. Designed for those who do any kind of international business in textiles, a rate comparison guide to airfreight shipment of goods from San Francisco to 93 world destinations is available. The 16-page guide presents side-by-side comparative airfreight rates charged by AEIA, the airlines, and parcel post. The guide can be obtained by writing to Air Express International Agency, Inc., 415 Washington St., San Francisco 11, California.

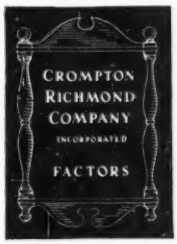
FTC in Reverse on "Free" Offers. The Federal Trade Commission has reversed a five-year-old policy regarding the use of the word "free" in advertising free offers. As it now stands, any article given away without cost to a buyer of other merchandise may be described as a "free" offer. The word "free" must be used "honestly" and not as a "device for deceiving the public," the FTC added.

Book on Hosiery Wage Structure. A detailed study of the wage structure of the hosiery industry has been published in a 72-page booklet by the Bureau of Labor Statistics, Department of Labor. The booklets are available without charge from Bureau of Labor Statistics, U. S. Department of Labor, Washington 25, D. C.

To Check Effect of Gins. The National Cotton Council's industrywide committee on cotton quality has recommended that a study be initiated to determine the effect of ginning on the spinning quality of cotton. The group asked that a committee be set up to examine actual cases and obtain documentary evidence backing up any conclusions on the relation of ginning to spinning quality.

Lowell Tech Program Change. A revision of the night school program at Lowell Technological Institute has been accomplished. The former single term, twenty-week program, has been replaced by a two-term, thirty-week program, each term being of fifteen weeks duration. The two-semester program will enable a student who formerly could only accomplish one course per year in his specialty to accomplish two courses during a single academic year.

Britain-Canada in Competition. The Canadian wool textile industry can in the future expect even tougher competition from imports from Britain. So said an official from Britain recently while visiting in Canada. The official, Lord Barnby, said: "I am really convinced that when British domestic



The Human Factor

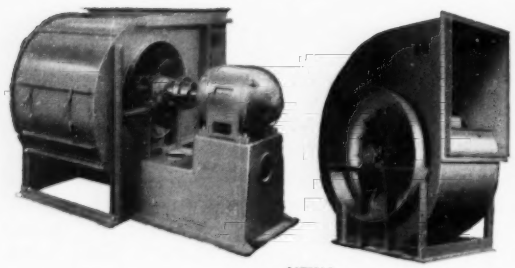
You Name Your Own Terms

If you are factorable, we'll amortize your receivables to suit your convenience: immediately on shipment, once a week, or any reasonable schedule best suited to your Southern operation.

The Southern Boom holds profits for the firm which is unleashed for expansion. If money is holding you back, we'll supply the cash for your receivables – without recourse. We'll relieve you of all the chores of credit and collection. And Crompton Factoring means Southern factoring – we've been doing business with the South for 100 years – and producing in the South for over 25 years.

Representatives:
L. N. HUFFSTETLER, Box 605, Gastonia, N. C. • VON D. OEHMIG, Green Island Hills, Columbus, Ga.

CROMPTON-RICHMOND CO., INC.
1071 Avenue of the Americas, New York 18, N. Y.



DRAFT FANS

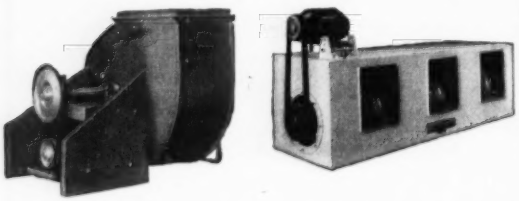
"Buffalo" mechanical Draft Fans are helping turn out low-cost steam in plants and major utility stations everywhere.

BULLETIN 3750

NEW!
TYPE "BL" FANS

In sizes for 1,000 to 500,000 cfm, these new non-overloading fans for general ventilation and air conditioning offer even finer performance than their famous predecessors, the "LL" Fans.

NEW BULLETIN F-100



BELTED VENT SETS

Non-overloading ventilating fans for duct or free air delivery. Extra quiet.

BULLETIN 3720

SHORTBOY VENTILATING SETS

Quiet, efficient, vibration-free fans. Wheels mounted on hollow shaft.

BULLETIN 3701

THE FAN for your JOB IS ON THIS PAGE

"Buffalo" Fans give "extras" in performance for two reasons: First, the line is so complete that you can pick — with mathematical accuracy — the fan to give you best possible results on almost any air moving job you could name. Second is the "Q" Factor, or inbuilt quality that "Buffalo" engineers have always insisted on. Why not have us mail you Bulletins on the right fans for **your** air job — from the complete line shown here?

"Buffalo" FIRST FOR FANS

. . . and for satisfaction in your PUMPING applications

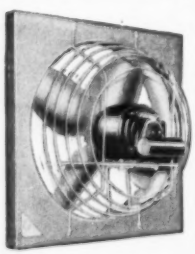
. . . check into "Buffalo" Centrifugal Pumps. Every industry depends on them. There is one to fit **your** hydraulic conditions. Representatives in principal cities.

BUFFALO FORGE COMPANY

175 Mortimer Street **Buffalo, N. Y.**

Publishers of FAN ENGINEERING Handbook

Sales Representatives in all Principal Cities



New! NV-BREEZO FANS

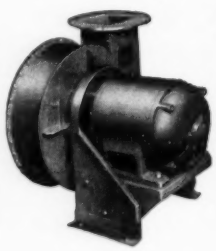
Their specially-shaped four-blade wheel gives high efficiency even against system pressures of ¼" and ½". 8" to 24" sizes.

BULLETIN 3865

New! BELT-AIR FANS

Quiet, sturdy fans to move a lot of air at negligible cost. Heavy-gauge die-stamped blades and panel.

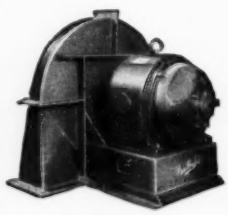
WRITE FOR BULLETIN



"CB" PRESSURE BLOWERS

Up to 2¼ psi, single stage with these husky, space-saving units!

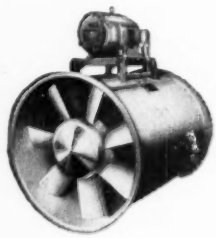
BULLETIN 3553



"CC" PRESSURE BLOWERS

In sizes for up to 4 psi, and capacities up to 75,000 cfm. Complete range of sizes, extra heavy-duty construction.

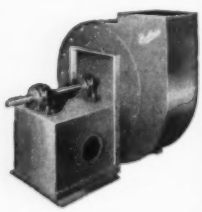
BULLETIN 3553



AXIAL FLOW FANS

Compact, light, highly efficient ventilating fans for light duty.

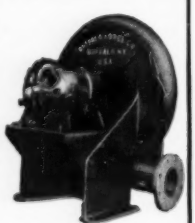
BULLETIN 3533



INDUSTRIAL EXHAUSTERS

All-welded for strength and high efficiency. With air or material wheels.

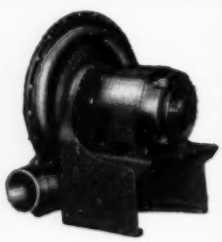
BULLETIN 3576



"RE" BLOWERS - EXHAUSTERS

For pressures up to 40" of water; 50 to 1600 cfm. Furnace blowing, line boosting.

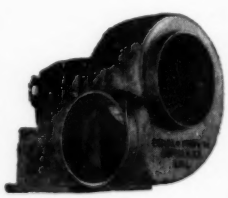
BULLETIN 3014



"E" BLOWERS - EXHAUSTERS

For low to medium pressures and volumes in draft, cleaning, line boosting.

BULLETIN 3014



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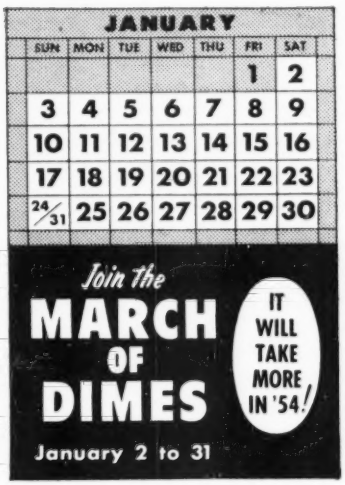
Adjustable discharge, compact design, multi-blade rotors make these fans ideal for many small jobs.

BULLETIN 3576

VOLUME FANS

Rugged blowers-exhausters with cast iron housings and dust-proof ball bearings for any job up to 10" s.p.

BULLETIN 3615.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January 2 to 31

deliveries can be made in weeks instead of months, and profits are squeezed out, British competition with its low wages will be found in Canada to be even tougher."

Socks Oversold. The hosiery industry in one month sold nearly four and a half million more pairs of children's and infants' socks than were produced, according to the National Association of Hosiery Manufacturers. The balance had to be made up of reserve stocks. The latest complete figures covered the month of August, but spot checks indicate that the situation was very similar in September.

On Accidents. The 1953 series of "Accident Rates" booklet is now available. This booklet contains the 1952 accident experience of all companies in the textile industry that report to the National Safety Council. Copies may be obtained from National Safety Council, 425 North Michigan Avenue, Chicago 11, Ill.

Union Seeks Fashion Designer's Aid. Oleg Cassini, famous designer, has been asked by Alexander McKeown, American Federation of Hosiery Workers, AFL, to help spread the word among other stylists to make stockings an accessory to be matched to the costume "rather than as a standard item that will go with anything."

Rayon Bags. Flour, feed, meal and other products may now be packaged in rayon bags. Bemis Bros. Bag Company and Chase Bag Company have supplied a number of rayon bags which are being well received. Good strength was an important factor in the development of rayon bag fabrics. The American Viscose Corporation will conduct a nation-wide promotional program in behalf of rayon bags.

Japan Buys Less U. S. Cotton. From August 1, 1952 to July 31, 1953, Japan's imports of raw cotton from the United States declined from 1,038,448 running bales in the previous year to 630,871 running bales, while imports from Pakistan, Mexico, and India increased. Pakistan supplied 577,830 running bales.

Swim Suits That Float. A Canadian textile company has aroused considerable interest in a swim suit with a built-in life preserver. A Montreal firm has made about 20,000 of the suits and expects to "really get going" next year.

News in Brief

Handbook on Warehouse Efficiency. Warehouse managers responsible for cotton handling operations can improve the efficiency of this work by applying certain principles to get work done in less time and with less labor, the U. S. Department of Agriculture reports in a handbook called "Cotton Handling Guide for Warehouse Managers and Foremen." A copy of the handbook may be obtained from the Office of Information Services, Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

F-F Hose Without Fashion Marks. Van Raalte Co. is testing a

(Continued on page 189)

Stop Termite Damage!
Protect Your Investment
This year termites will do 100 million dollars in damage. Is your property earmarked for destruction?
"Otto" the Orkin Man is an old hand at stopping the parade of pests in the textile industry. There are Orkin offices serving 3,000 communities from principal cities of 24 states. Call "Otto" the Orkin Man or write
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January 25-28—Plant Maintenance & Engineering Show (Chicago)

February 1-2—National Cotton Council of America (Atlanta)

March 18-20—Alabama Cotton Manufacturers Association (Biloxi)

April 7-10 Cotton Manufacturers Association of Georgia (Boca Raton)

April 22-24 American Cotton Manufacturers Institute (New Orleans)

April 26-30 American Textile Machinery Exhibition (Atlantic City)

(Plan to go—and send Joe)

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12-1 How Chromium Plating Adds Life To Textile Parts. Booklet by Walton and Lonsbury shows how miles can be added to part life, effecting important replacement savings. Tells advantages of regular "Walhard" replating program. Write Walton and Lonsbury, Attleboro, Massachusetts, asking for "Walhard Brochure."

12-2 Textile Fibre Opener For Cotton, Synthetics, Wool. New Brochure by Cen-Tennial Cotton Gin Co. gives complete data on their Textile Fibre Opener which is based on the machine designed by the Southern Regional Research Laboratory at New Orleans. Sectional view is shown and complete operating procedure described. Write Cen-Tennial Cotton Gin Co., Columbus, Ga.

12-3 Hardwood Parts For Textile Machinery. Illustrated booklet shows complete line of hardwood specialties made by Pearson Manufacturing Co. Information concerning wooden parts made to specification. Write Pearson Manufacturing Co., P. O. Box 2031, Charlotte, North Carolina.

12-4 "Quick-Clean" Roving Frame Motor. Bulletin by Allis-Chalmers gives construction features of the open, fan-ventilated "Quick-Clean" textile motor with slow acceleration designed for roving frames. Write Allis-Chalmers Manufacturing Co., 1054 South 70th Street, Milwaukee, Wisconsin.

12-5 Conversion Of Animal Fiber Into Useful End Products. 36-Page booklet describing how Antara Chemicals should be used in the many wet operations required to convert animal fiber into a wide variety of useful end products. Write Antara Chemicals Division, General Dyestuff Corp., 435 Hudson St., New York 14, N. Y.

12-6 ½ To 2 Ton Hand Hoists. Yale "Load King" hand hoists are depicted as follows in 8-page booklet: (1) unusually lightweight and (2) up to 95% efficiency for faster and easier lifting. Write Yale and Towne Mfg. Co., Yale Materials Handling Division, Philadelphia, Pa.

12-7 Textile Leathers Catalog. Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated. Write J. E. Rhoads & Sons, 35 North Sixth St., Philadelphia, Pa.

12-8 Motor Starters. New booklet by Allis-Chalmers describes features of Allis-Chalmers Type "H" starters built to control squirrel-cage, synchronous, wound rotor and multi-speed motors in ratings from 2200 to 5000 volts. Write for bulletin 14B6410B, Allis-Chalmers Mfg. Co., 1054 S. 70th St., Milwaukee, Wisconsin.

12-9 Literature On Dyeing And Finishing Machinery. Circulars cover following machinery: Two Roll Quetsch of 15 ton Capacity; Wide Squeeze Roll of 15 ton Capacity; Cloth Opening & Vacuum Extracting Rrange; Butt-Seam Grey Room Sewing Machine; High Speed Tacking Head; Electrically Controlled Conical Opener; Cotton Tufted Carpeting Finishing Range; Cloth Measuring Machine. Write Birch Brothers, 32 Kent Street, Somerville 43, Mass.

12-10 Concise Handbook For Textile Cleaning. Book by Oakite discusses individual problems, giving concentrations, temperatures and times involved. Detailed description of cleaning methods that have proved most effective. Write Oakite Products, Inc., 19 Rector St., New York 6, N. Y.

12-11 How Mills Can Stop Termite Damage. Termites cause over fifty million dollars worth of damage in the U.S.A. each year, and it's possible that your mill may be under attack this moment. Color booklet by ORKIN explains their services in eliminating this situation in your mill. Write Orkin Exterminating Co., 713 West Peachtree St., Atlanta, Ga.

12-12 Pressure Plugs With Heat-Treated Threads. Heat-treated Precision pressure plugs, which seal tight without sealing compound, are discussed in a new bulletin prepared by Standard Pressed Steel Co. Write Standard Pressed Steel Co., Box No. 582, Jenkintown, Pa.

12-13 Igepons-Synthetic Surfactants. Antara Chemical Division of General Dyestuff Corporation offers a new booklet presenting basic product information on its complete line of Igepons, which are formed by chemical reaction of a fatty acid with an organic sulfonate. Write Antara Chemicals Div., General Dyestuff Corp., 435 Hudson St., New York 14, N. Y.

12-14 Truck Caster Catalog. Catalog by Faultless is a handy guide to helping solve many material handling problems. New additions to extensive Faultless line are included in the catalog. Write Faultless Caster Corp., Dept,. A.M., Evansville, Indiana, asking for Catalog 157.

12-15 Pop Safety And Relief Valves. An informative, comprehensively illustrated 12-page booklet by Lunkenheimer describes complete line of Pop Safety and Relief Valves for steam, air, gas, water, oil and other liquids. Write The Lunkenheimer Co., Box 360, Cincinnati 14, Ohio, for Circular 502.

12-16 Textile Roll Coverings and Mill Supplies. Color Booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies, Roll covering for Cotton, Silk and Synthetic and Woolen and Worsted systems. An excellent guide book. Write Armstrong Cork Co., Industrial Div., Lancaster, Pa.

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4. HOW FACTORING CAN INCREASE PROFITS —Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet. — COMMERCIAL FACTORS CORP., New York City.

7. RAYON TELLS ITS STORY TO THE PUBLIC —Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public. — AMERICAN VISCOSE CORPORATION, 350 5th Ave., New York 1, N. Y.

17. A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK — 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management. —AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18. FACTORING — Information available on how factoring works to aid client in keeping capital fluid and to avoid credit losses. Inquiries regarding these services welcome. — L. F. DOMMERICH & CO., 271 Madison Ave., New York 16, N. Y.

19. INDUSTRIAL BUILDING — A 32-page booklet entitled "U.S.S. 12, U.S.S. 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 Stainless Steel Sheets in the construction of industrial and semi-industrial buildings. — U. S. Steel Co., 525 William Penn Pl. Pittsburgh 30, Pa.

20. VISION TESTING EQUIPMENT — Pamphlet entitled "What You Can Expect From A Good Vision Program" written by a prominent personnel director. Also circular describing the Keystone Occupational Visual Service. — KEYSTONE VIEW COMPANY, Meadville, Pa.

22. THE WONALANCET WAY — Is the title of a editorial booklet published five times a year and deal with current problems which appear worthwhile at the time they are written. — WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

PLANT & PLANT MAINTENANCE . . .

102. "TANK TALK" — Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING — Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the Finnell floor scrubbing machines. — FINNELL SYSTEM, INC., Elkhart, Ind.

108. MAPLE FLOORING — Booklet describing finishing of Northern Hard Maple Flooring — list of M.F.M.A.-approved heavy-duty floor finishes. — MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacker Dr. Chicago 1, Ill.

111. INDUSTRIAL FANS — Catalog sheets with specifications describing the complete line of Murray Industrial fans for plant ventilation. Seven sizes described from 24" with 1/3 HP motor delivering 3700 CFM to 54" with 3/4 HP delivering 17,386 CFM with advantages of heavy gauge metal construction brought out. — H. C. BIGLIN CO., 177 Harris St., N.W., Atlanta, Ga.

113. COTTON MILL EQUIPMENT — This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

117. CLEANING SYSTEMS — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system.—PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

119. MOPPING EQUIPMENT — Complete catalog and circulars containing information on the many sizes and styles that can be had. — S. C. LAWLOR CO., 121 N. Aberdeen St., Chicago, Ill.

126. "SENTRY-LITE" — Bulletin illustrating and describing light unit that comes on automatically when power fails, illuminating 10,000 sq. ft. 9 hours or longer. — CLEVELAND ELECTRIC CO., 557 Marietta St. N.W., Atlanta 3, Ga.

127. SOLENOID VALVES — Bulletin "V" lists sizes from 1/2 inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations. — THE JOHNSON CORP., Three Rivers, Mich.

129. AIR CONDITIONING AND HUMIDIFICATION — Catalog section 101 lists and briefly describes each item of the complete Bahnson line of equipment for textile mill air conditioning and humidity control. — THE BAHNSON COMPANY, Winston-Salem, N. C.

131. "AIR PROCESSING" — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

133. PAINTING SPECIFICATIONS AND COLOR CHIPS — Industrial Paint and Color Guide, CC446, gives full painting specifications for exterior and interior of industrial plants with complete color samples. —THE SHERWIN-WILLIAMS CO., Painter Maintenance Div., Cleveland, Ohio.

135. COLOR CONDITIONING — Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid. — E. I. DU PONT DE NEMOURS & CO. INC., Finishes Div., Wilmington 98, Delaware.

137. PUMPS AND COMPRESSORS — Bulletin QP-11 presents the standard types of Gardner-Denver air compressors, centrifugal pumps, steam and power reciprocating pumps in a brief and comprehensive manner to enable the prospective user to select the size and type for specific needs. — GARDNER-DENVER CO., Quincy, Ill.

138. METAL CONVEYOR BELTS — Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Belt design and application, along with their Woven Wire constructions and Positive Drive Chain Edge belts. — ASHWORTH BROS. INC., Metal Products Div., Fall River, Mass.

139. STEEL SHOP EQUIPMENT — Write for profusely illustrated Hallowell folder describing line of shop desks, tool stands and carriers, cabinets, etc., adaptable to a wide range of uses. — STANDARD PRESSED STEEL CO., Box 582, Jenkintown, Pa.

146. FUNCTIONAL GLASS BLOCK DATA — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. — PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS — Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.

151. INDUSTRIAL BRUSHES — Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines — also flock, raising and cylinder brushes. — M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. LAMINATED TEXTILE PLASTICS—Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry. — Write: SYNTHANE CORPORATION, Textile Division, Oaks, Penna.

154. AIR CONDITIONING FOR THE TEXTILE INDUSTRY — Booklet shows advantages of air conditioned mills in better products and more efficient workers, and gives values of White & Co. air conditioning in particular. — WHITE & CO., INC., 1440 S. Tryon St., P. O. Box 533, Charlotte, N. C.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE — Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.— G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

157. MAINTENANCE — Silicone water-repellent for masonry described in data sheet XR-129G-1. Properties and application of an invisible, durable, non-plugging, silicone masonry water repellent that is inexpensive and easy to apply fully discussed. — DOW-CORNING CORP., Midland, Mich.

158. FLOATING BOTTOM ROVING TRUCK — Booklet by Excel Textile Supply shows advantages of roving truck with automatically adjusted bottom. Eliminates reaching over into truck by keeping load level within easy reach of operator.—Write EXCEL TEXTILE SUPPLY CO., Lee Ave., Lincolnton, N. C.

161. AUTOMATIC CLEANING EQUIPMENT — Complete booklet by American MonoRail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit. Write — AMERICAN MONORAIL CO., 13107 Athens Ave., Cleveland 7, Ohio.

165. CLEAN, DRY, COMPRESSED AIR — 8-page color illustrated bulletin thoroughly describes after-cooling, air separating, and air filtering. Also gives size and capacity of R. P. Adams equipment. — R. P. ADAMS COMPANY, INC., 216 E. Park Drive, Buffalo, New York.

167. COLOR CONDITIONING FOR INDUSTRY— Booklet describing how color is used to reduce maintenance costs, increase production, curtail fatigue, improve employee morale. — E. I. DU PONT DE NEMOURS & CO., INC., Finishes Div., Wilmington, Delaware.

169. MACHINE BRUSHES — Illustrated Folder shows many types of machine brushes and describing their particular use for printing, washing, brushing, singeing, and shearing is sent free upon request. — INDUSTRIAL BRUSH COMPANY, INC., Woodside Avenue, Little Falls, New Jersey.

173. BLOWERS AND EXHAUSTERS — Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings. — BUFFALO FORGE CO., 490 Broadway Buffalo 5, N. Y.

174. PAINT STRIPPING BOOKLET — Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion.—OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

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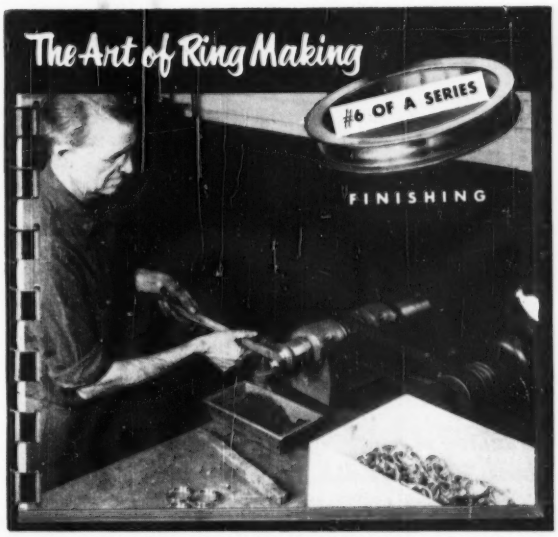

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176. STOKERS AND BOILERROOM EQUIPMENT —For information on Boilerroom problems, improvements and apparatus, write — McBURNEY STOKER CO., 2110 Peachtree Rd., Atlanta, Georgia.

179. BETTER WAYS — Form 2020, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving, shipping, and production operations by all industries including the textile field. — TOLEDO SCALE CO., Box 97 Toledo, Ohio.

181. AIR FILTRATION — Bulletin 234 describes and illustrates the Auto-Airmat, which is the automatic Dry-Type air filter. Principle of operation, performance characteristics, construction and installation fully discussed. — AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

188. PROGRESSING-CAVITY PUMPS — A new principle in pumps. Self-priming, positive displacement, uniform flow features discussed. — ROBBINS & MYERS, INC., Pump Div., Springfield, Ohio. ..

192. ELECTRONIC HUMIDITY CONTROL — Bulletin F-5090 gives specifications, detailed control description, installation diagrams, and comprehensive illustrated data on a "package" unit for electronic control of humidity in Textile mills. — BARBER-COLMAN CO., Rockford, Ill.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

201. V-BELT DRIVE CATALOG — This handy, pocket-sized catalog helps you make quick and easy selections of any Dayton V-Belt Drive from 1 to 1000 HP. Contains many concise, accurate drive tables, diagrams and other important engineering data. — DAYTON RUBBER CO., Dayton, Ohio.

203. TREADED LEATHER BELTING — This 16 page booklet describes Houghton's line of patented, specially treaded leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section. — E. F. HOUGHTON & CO., Philadelphia, Pa.

207. TRICO OILER INSTALLATION — Twelve interesting pages of actual "on the job" photos of Trico oiler applications on nationally recognized machinery and equipment. — TRICO FUSE MFG. CO., 2948 N. 5th St., Milwaukee 12, Wisc.

212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others. — THE GATES RUBBER COMPANY, 1001 Broadway, Denver 17, Colo.

206. LOOM MOTOR BULLETIN — The new design of this ball bearing motor is claimed to represent an advance in the design of loom motors fully discussed. — THE LOUIS ALLIS CO., 427 E. Stewart St., Milwaukee, Wisconsin.

218. BALL BEARINGS FOR TEXTILE MACHINERY — A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing. — THE FAFNIR BEARING CO., New Britain, Conn.

227. WOOLEN AND WORSTED MILL ELECTRICAL EQUIPMENT — Booklet by Westinghouse follows processes through the mill and shows application and advantages of Westinghouse equipment. Write for: B-4698, WESTINGHOUSE ELECTRIC CORP., Box 2099, Pittsburgh 30, Pennsylvania.

229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive. Write: — DODGE MANUFACTURING CORP., Mishawaka, Indiana.

230. HEAT RESISTING LUBRICANT — Descriptive pamphlet on Ben Boy High Heat Resisting Lubricant for use in any bearing using excessive amounts of oil or grease or frequent bearing failures. — GEORGIA-CAROLINA OIL CO., 1403 Sixth St., Macon, Ga.

235. JOHNSON LEDALOYL BEARING BRONZE —Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. — JOHNSON BRONZE COMPANY, New Castle, Pa.

227. SPECIAL TEXTILE MOTORS — Bulletin 51R6055A describes special features of "Quick-Clean" motors, including discussion on free air flow, pre-lubricated bearings, rigid cast iron frame and double insulation. — ALLIS-CHALMERS MFG. CO., Milwaukee, Wis.

236. LEATHER BELTING CALCULATOR—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request. — J. E. RHOADS & SONS, 35 N. 6th St., Philadelphia, Pa.

237. MOTOR CONTROL — Brochure gives description and engineering data on the Cutler-Hammer motor control for roving and spinning frames. Users listed and advantages discussed. — CUTLER-HAMMER INC., Milwaukee, Wisc.

239. LICKERIN AND DOFFER BELTS — Brochure and full information on Lickerin and Doffer belts supplied by: — TON-TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

253. TEXTILE LUBRICATION — "Lubrication" a magazine published by the Texas Co. is available. Shows methods and means of lubricating chain drives in very comprehensive form. Write — THE TEXAS CO., 135 East 42nd St., New York 17, N. Y.

256. METERED LUBRICATION — Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc. — BIJUR LUBRICATING CORP., Rochelle Park, N. J.

259. SUNOTEX MACHINE OIL — Booklet describing this machine oil as being "custom-made" for the textile industry. Advantages discussed and pictures of uses which includes knitting machinery. — SUN OIL COMPANY, Philadelphia 3, Pa.

262. SMALL PRECISION METAL PARTS — Catalog by Torrington Company describes many special precision metal parts made by its Specialties Division. Write: — THE TORRINGTON COMPANY, Specialties Division, 500 Field Street, Torrington, Connecticut.

265. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, Division of General Motors Corp., Bristol, Conn.

266. SILICONE LUBRICATION — Bulletin BG2-DC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in re-lubrication requirements described. — DOW-CORNING CORP., Midland, Mich.

301. JOHNSON ROTARY PRESSURE JOINTS — Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

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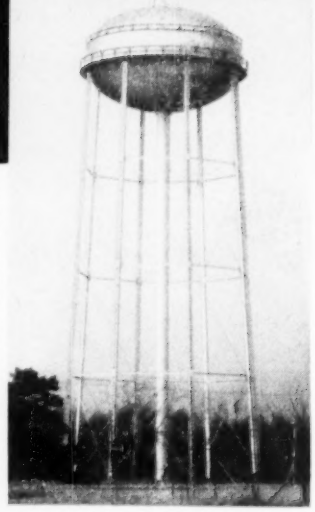

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302. HYPERSONIC AND ULTRASONIC INSTRUMENTS — Illustrated catalog covering uniformity analyzer, acoustical measuring devices, and other non-destructive industrial measuring instruments. Illustrated brochure describing hypersonic equipment for both laboratory and pilot plant use in the field of ultrasonics. — BRUSH DEVELOPMENT CO., 3405 Perkins Ave Cleveland 14, Ohio.

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309. ELECTRONIC RECORDER — 8-Page bulletin covers the TEKTOLOG Electric Recorder which features simplified design, accuracy to + or — 1% of full scale, and self-starting operation from low energies. — FIELDEN INSTRUMENT DIVISION, Robertshaw Fulton Controls Co., 2920 North Fourth St., Philadelphia, Pa.

311. PIPING POINTERS — Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips. —CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.

314. MOISTURE CONTENT CONTROL — Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications. — BARBER-COLMAN CO., Rockford, Ill.

319. GUIDE TO CORRECT INSTRUMENT SELECTION — This completely revised edition gives a comprehensive bird's-eye view of the companies' entire instrument line. Bulletin 98170. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame. — RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

324. STROBOTAC—Informative reprint, "Strabotac Boosts Efficiency in Woolen and Synthetic Mills." —GENERAL RADIO CO., Cambridge 3, Mass.

337. COUNTING DEVICES — Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. — TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

339. NEW LUBRICATED PLUG VALVES — Illustrated booklet by The William Powell Co. features a new line of semi-steel and steel lubricated plug valves. Advantages include quick and positive shut off. Write THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS — Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking—ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

404. LAPLESS ENDLESS SPINNER — Bulletin and full information will be supplied on lapless endless spinner and coning belting. — TON-TEX CORPORATION, 16 West 61st St., New York, N. Y.

408. CARD GRINDING INFORMATION — Outlines care of grinders. Instructions on speed to run grinders, amount of oil to add to machine and other pertinent information. — R. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

412. SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS, INC., Gastonia, N. C.

414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament oor spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

416. THE BRIEF SAGA OF THE RING TRAVELER — An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered. — NATIONAL RING TRAVELER CO., Pawtucket, R. I.

418. PACIFIC CONVERTER — Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend. — WARNER & SWASEY CO., Cleveland, Ohio.

419. TEXTILE APRONS — Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery. — TEXTILE APRON COMPANY, East point, Ga.

420. AUTOMATIC FILLING WINDING — Eight page, two color booklet describing the operation and mechanism of the Hacoba winder. — ATKINSON, HASERICK & CO., 211 Congress St., Boston, Mass.

421. CARD ROLL COVERS — Brochure describing the Davis seamless roll covers. Lists advantages, specifications and offers free trial. — THE TEXTILE LABORATORIES, P. O. Box 1003, Gastonia, N. C.

425. HANDY REFERENCE TABLES — Folder showing spinning traveler speeds, sizes of ring flanges, etc. — VICTOR RING TRAVELER CO., Providence, R. I. and Gastonia, N. C.

426. UNIRAIL UPTWISTER — Bulletin describes Universal Winding's headless package or bobbin take-up Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed. — UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence 1, R. I.

430. DIXON DATA — Dixon house organ entitled "Dixon Data," which is available in a new form every other month. These house organs contain information on spinning problems as they relate to saddles and component parts. — DIXON LUBRICATING SADDLE CO., BRISTOL, R. I.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

435. DOUBLE DECK TWISTERS — Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up spool packages) and Acme (up to 10 oz. packages) models for high speed twisting of silk, rayon, nylon, etc. to finest deniers. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording. — SCOTT TESTERS, INC., Providence, R. I.

437. SPINDLE TAPE LACING EQUIPMENT — Circular No. 54 illustrating and describing the Clipper method of joining spindle tapes. — CLIPPER BELT LACER CO., Grand Rapids 2, Mich.

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445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning. — USTER CORPORATION, Charlotte, N. C.

455. PIN DRAFTS — Catalog describing the use and features of the machine, what it can do to cut costs in the processing of natural and synthetic yarns, along with specifications and installation data. — WARNER & SWASEY CO., 5701 Carnegie Ave., Cleveland, Ohio.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers.—HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models — Standard, Warp, and Double Disc fully described with specific application.—WALTER KIDDE & CO., INC., Belleville 9, N. Y.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG —A 24 page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. Write — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

468. BALL BEARING TOP ROLLS — Bulletin features top roll for Spinning and Roving Frames with sealed lubrication, interchangeable units, low-cost servicing and precision quality. — FAULTLESS CASTER CORPORATION, Textile Equipment Division, Evansville 7, Indiana.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO MACHINE COMPANY, Lansdale, Pa.

470. TENSION CONTROL IN TEXTILES—Booklet describes many applications and advantages of Link Engineering's "Lod-Caps." Well-illustrated with diagrams and pictures, it gives specifications and capacities. — LINK ENGINEERING COMPANY, 13843 Elmira Avenue, Dept. D, Detroit 27, Michigan.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. Write — IDEAL MACHINE SHOPS, Bessemer City, North Carolina.

473. CUSTOM MADE THREAD GUIDES — Illustrated booklet describing uses and physical properties of the "AlSiMag" line of Thread Guides. Advantages fully discussed with picture and specifications of each type. — AMERICAN LAVA CORP., Chattanooga 5, Tenn.

474. BALL BEARING COMB BOXES — Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown. —SOUTHERN STATES EQUIPMENT CORP., Hampton, Georgia.

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502. COUNTING AND MEASURING DEVICES—Condensed Textile Catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery. — VEEDER-ROOT, INC., Hartford, Conn.

503. WEAVER'S KNOTTER — A catalog on the Royce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. B. CARTER, INC., Gastonia, N. C.

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507. VARIABLE SPEED SLASHER DRIVE — Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher. — REEVES PULLEY CO., Columbus, Ind.

508. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., GREENVILLE, S. C.

509. MULTI-MOTOR SLASHER DRIVES—Booklet designed to bring the descriptive information on multi-motor slasher drives up to date, and emphasize the improvement in the drive through the use of Roto-trol for the control of winding tension. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

510. THE ROMANCE OF PRAIRIE GOLD — Attractive illustrated book which tells the story of corn and the uses of corn products to industry. — CORN PRODUCTS SALES CO., 17 Battery Place, New York, N. Y.

511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

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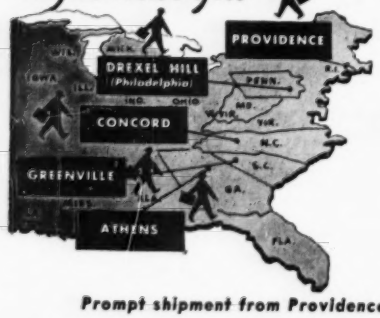

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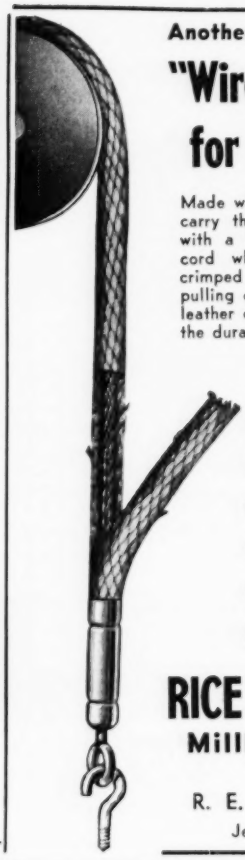

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529. STRAPPING — Looms and harness strapping, complete line. Full information supplied on request. —TON TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing, on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atlanta Ave., Charlotte, N. C.

536. HOMOGENIZER IMPROVES SLASHING — Pamphlet by Manton-Gaulin Manufacturing Company shows how mechanical conversion of size by the Gaulin method produces better size. Gives installation pictures and specifications. — MANTON-GAULIN MANUFACTURING COMPANY, INC., Everett, Massachusetts, U. S. A.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included. — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. Write — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

539. AUTOMATIC REGAIN CONTROL OF RAYON AND SYNTHETIC FIBRE SLASHING — Technical booklet by Minneapolis-Honeywell gives data on their electronic, multi-range "Moist-O-Graph" system for controlled regain. Write for No. B54-66, —MINNEAPOLIS-HONEYWELL REGULATOR CO., Station 64, Phila. 44, Pa.

540. SLASHING EQUIPMENT — Brochure by Tower Iron Works shows different types of slashing equipment, enumerating characteristics and advantages of each. Write — TOWER IRON WORKS, 50 Borden St., Providence 3, R. I.

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602. CONTROLLED VAT DYEING — Calco technical booklet No. 828 discusses Stabilization of Vat Dyes at Elevated Temperatures, Instrumental and Analytical Measurements, Leuco Potentials. Write Adv., Dept., AMERICAN CYANAMID CO., Calco Chemical Division, Bound Brook, New Jersey.

606. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.— B. F. PERKINS & SON, INC., Holyoke, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery. — PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

616. FINISHING DRIVES — 32 page booklet covers complete drives Westinghouse has engineered for the textile finishing industry. Describes all types of finishing ranges and discusses advantages of Westinghouse drives for these installations. "Packaged" drives for batch processes covered. — WESTINGHOUSE ELECTRIC CORP., 511 WOOD ST., Pittsburgh 30, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS — Booklet explains advantages of International's Laxate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job. Write: — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

623. SELVAGE GUIDER — The Marshall and Williams positive overfeed and selvage guider is described in a brochure as being developed to meet the most modern requirements of the textile finishing industry. Full description, pictures and advantages discussed. — MARSHALL AND WILLIAMS CORPORATION, 46 Baker Street, Providence 5, R. I.

627. SINGLE APRON STOCK DRYERS—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. — C. G. SARGENT'S SONS CORP., Graniteville, Mass.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods. Write for data sheet, 220-60. — FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1-C illustrated bulletin detailing right and wrong application and use of washers. — E. H. JACOBS NORTHERN DIV., Danielson, Conn.

637. BALL BEARING TURN TABLE — Leaflet describing this 48" diameter steel turn table for use in mills when the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or Cloth Opening Machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

638. DYEING AND FINISHING MACHINES — Booklet by James Hunter Machine Company shows pictures, applications, and advantages of following: "Vapo Jet" Dryer; "Hunter Dye Reck"; "Flexreel" Rope Washer; Continuous Cloth Washer; Model "S" Dye Kettles; Compartment Washer; Fulling Mill; Top Dyeing Machine; "Uniflow" High-speed Tenter Dryer; Cloth Carbonizer. Write — JAMES HUNTER MACHINE CO., North Adams, Mass.

639. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate, straight line guilding of open width goods. Bulletin 5-G PG. — MOUNT HOPE MACHINERY CO., 85 Fifth St., Taunton, Mass.

654. ION EXCHANGERS — Bulletin details a general history of ion exchange, gives data on proper selection of ion exchangers and lists general applications in the treatment of water. Write the— PERMUTIT COMPANY, 330 West 42nd Street, New York 36, New York.

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701. MAGNESIUM APPLICATIONS — Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry. — DOW CHEMICAL CO., Midland, Mich.

703. WATER REPELLENTS—Data sheet 1043 describes application of De Cetex 104, which is described as a durable, water repellent finish that is easily applied on conventional finishing equipment and its resistance to spotting, laundry or dry cleaning durability is good. — DOW-CORNING CORP., Midland, Mich.

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706. RHONITE RESINS — Booklet describes the Rhonite Resins as being developed to impart hand to fabrics ranging from stiffness through full resiliency to silky pliableness, depending on the demand of the season. Full information and uses given. — ROHM & HAAS COMPANY, Washington Square, Philadelphia, Pa.

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715. AQUAROL AND ARKANSAS PRODUCTS—Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk, and yarn, hosiery processing. — ARKANSAS CO., INC., Newark, N. J.

721. SURFAX 1288 — Product data sheet explains this useful wetting and rewetting agent. Described as being water soluble at all temperatures and is a highly concentrated, economical surface active agent. — E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

727. COLOR PRINCIPLES — Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. Write: — SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

728. UNIQUE YARN AND DYEING SERVICE—Booklet by Franklin Process tells why Franklin Process Yarn Dyeing Service is one of the top package yarn dyeing services. Also includes table showing relative fastness of dyestuffs used on various fibers. — Franklin Process Co., 564 Eddy St., Providence, R. I.

729. STATIC AND STATIC CONTROL—Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them. Write — DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

732. USES OF PERSULFATES — A bulletin which presents a bibliography of the properties and uses of persulfates is available from the Buffalo Electro-Chemical Company. Application to Textiles discussed thoroughly. Write — BUFFALO ELECTRO CHEMICAL CO., Station B, Buffalo 7, New York.

733. WOOL OILS — Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil. — Write PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

745. RAPIDASE FOR DESIZING — Bulletin explaining in detail the properties and characteristics of Rapidase. — WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

749. WATER SOLUBLE GUMS — Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject.—JACQUES WOLF & CO., Passaic, N. J.

753. TRITON X-100 Booklet available describing this highly concentrated detergent and wetting agent, main uses fully discussed and chemical properties brought out. — ROHM & HAAS COMPANY, Philadelphia 5, Pa.

757. THE CHEMISTRY OF CYNANURIC CHLORIDE — Very comprehensive technical text by American Cyanamid Co. Gives Physical Properties, Reaction Chart, Chemical Properties, Potential Applications, Toxicity, Table of Alcohol Reactions, Table of Amine and Related Compound Reactions. Write — AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

763. TEXTILE CHEMICALS — Booklet well executed and in color, tells of American Viscose Company's "Avisco" textile chemicals for lubricating, softening, static control, sizing and finishing. Write —AMERICAN VISCOSE CORPORATION, Textile Research Department, Marcus Hook, Pa.

766. DU PONT PEROXIDE BLEACHING SYSTEMS — New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included. — E. I. DU PONT DE NEMOURS & CO., Electrochemical Dept., Wilmington, Del.

768. TEXTILE CHEMICALS — Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition. —AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

769. SURFACE TENSION DEPRESSANT — The Booklet, "Mercerizing and Alkamerce — The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing. — HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

773. TECHNICAL CHEMICAL DATA SHEETS — Complete set for dyeing, printing and finishing operation, showing major operations, performance and advantages. — ONYX OIL & CHEMICAL CO., 190 Warren St., Jersey City 2, N. J.

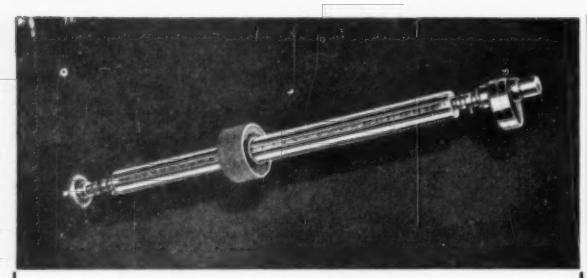
774. ROYCE TEXTILE CHEMICALS — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing. — ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

801. THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE — Literature on request from the WILDMAN MFG., CO., Full-Fashioned Division, Norristown, Pa.

808. REINER WARPER — Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog. — ROBERT REINER, INC., Weehawken, N. J.

818. FORGED HEAD ALUMINUM BEAMS — Bulletin 49-A shows new beam capable of holding high yardage of nylon and rubber warps, with specifications. Also describes permanent mold aluminum tricot and section beams. — MILTON MACHINE WORKS, INC., Milton, Pa.



An outstanding improvement in Cotton Traverse Grinders is now available to you. ROY Traverse Grinders are equipped with the new ball bearing head which means extra years of service. This improvement is not only available in the new grinders, but ROY will install it in your old grinders.

Sales Engineers in the South

Thomas M. Brockman Jr. • William P. Cooper • Leon F. Frye

Southern Office and Plant

Linwood and Second Av. • Gastonia, N. C.

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B. S. Roy & SON COMPANY

WORCESTER, MASS. • GASTONIA, N. C.

Better

IDENTIFICATION BANDS

for your

ROVING CANS

IDENTIFICATION BANDS OF UNITED ELASTIC WEBBING FEATURE

- the most in service
- a very attractive price
- well-made, firmly-woven construction
- securely sewed laps
- any desired color
- bright, solid, even colors
- fast-to-light, non-fading dyes
- easily recognized at a distance
- easily removed and transferred

If you will specify the can diameter; and the color, width and quantity of bands desired; we will submit samples and quote prices.

UNITED ELASTIC CORPORATION

EASTHAMPTON, MASS.

Sales Agent:

Roy Schrimshire

P. O. Box 906, Columbus, Georgia

HELPFUL BOOKLETS FREE!

823. **VARIABLE STRIPER** — Booklet available describing Supreme's complete line of Automatic Variable Stripers and Pattern Placer machines. — SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., Brooklyn 6, N. Y.

828. **THE KIDDE KNITTER** — Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it. — KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

916. **THE SUPERLOCK** — Bulletin 528 describing and illustrating the W & G Superlock over-seaming machine. — WILCOX & GIBBS SEWING MACHINE CO., 214 W. 39th St., New York 18, N. Y.

924. **BUTT-TACKING SEWING MACHINE**—Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt tacking. Write—THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

1000. **LIGHTWEIGHT ELECTRIC HOIST** — A new bulletin describing its line of lightweight "Liftabout Jr." electric hoists is available from Shepard Niles Crane and Hoist. Gives advantages, capacities, sizes, etc. Write SHEPARD NILES CRANE AND HOIST CORP., Montour Falls, New York for bulletin 182.

MATERIALS HANDLING . . .

1003. **CASTERS AND WHEELS** — 192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this. — DARNELL CORP., LTD., Long Beach 4, Calif.

1004. **PITTSBURGH COLLAPSIBLE CARGO TAINERS** — Stacked they lock in place and permit visible inventory; collapsed they rest in small area. Base permits entry by all types of lift trucks. Write for brochure MH-15.—PITTSBURGH STEEL PRODUCTS COMPANY, Pittsburgh 30, Pa.

1006. **LANE CANVAS BASKETS** — 16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. **OVERHEAD HANDLING EQUIPMENT** — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. **CASTERS AND WHEELS** — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters. — THE COLSON CORP., Elyria, Ohio.

1010. **CONVEYOR KEY BOOK** — A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results. — LOGAN CO., 1115 Franklin St., Louisville, Ky.

1011. **TEXTILE TRUCKS** — Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description. — EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1012. **"SERVES YOU RIGHT"** — Is theme of succint review of fork lift trucks, powered hand trucks and industrial towing tractors, with emphasis on proper planned materials handling systems, which can be obtained from CLARK EQUIPMENT CO., Industrial Truck Div., Battle Creek, Mich.

1013. **"A STORY OF TRACTOR TOOLS AND THEIR USE"** — Comprehensive Illustrated guide effectively present in cartoon-style the many principal uses for this type of Equipment. — HYSTER CO., 2903 N.E., Clackamas St., Portland 8, Ore.

1025. **ELECTRIC HOISTS AND CRANES** — Booklets describing a complete line of Electric Overhead, Cab and Floor-Operated Traveling Cranes, and a similar complete line of Electric Hoists. All fully discussed with pictures and engineering diagrams. — SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1030. **CDF RECEPTACLES** — This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

1032 **ELECTRIC CHAIN HOISTS** — Bulletin 852 describing Robbins & Myers Type "JC" Electric Chain Hoists. Capacities 500, 1000 and 2000 pounds. —ROBBINS & MYERS, INC., Hoist & Crane Div., Springfield, Ohio.

MISCELLANEOUS . . .

1101. **AUTOMATIC BOBBIN REFINISHER** — A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule. — J. M. NASH COMPANY, 2300 N. 39th St., Milwaukee, Wis.

1102. **BALING PRESSES** — An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models. — ECONOMY BALER CO., Ann Arbor, Mich.

1103. **UNBRAKO SCREWS** — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1107. **AUTOMATIC QUILL POLISHER** — Bulletin describes production machine for refinishing loom bobbins. Tells how quills can be kept in perfect condition at minimum labor cost. — J. M. NASH CO., 2369 N. 30th Street, Milwaukee 10, Wis.

1108. **FABRICATION OF U. S. STAINLESS STEELS** — 136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosive-resistance tables for chemicals. — CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

1111. **BRUSHES** — A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry. — GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. **THE RANDOM WEB PROCESS** — Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams. — CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

1113. **MACHINE KNIVES** — Catalog and price sheets describing this company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. **TEXTILE WRAPPING MACHINES** — Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made. — HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1122. **BALING PRESSES** — Bulletins available describing this company's line of motor-driven and hydraulic baling-presses for finished-goods, textile fibers, wool, and waste of all kinds. — LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee, Wis.

News in Brief

(Continued from page 180C)

new "Flex-Fit" patented 12 denier, 60-gauge construction featuring a new method of making full-fashioned hose without visible fashioning marks.

Cotton Quota Set. A national marketing quota of 10 million bales (500 lb gross weight) for the 1954 crop of upland cotton has been proclaimed by Secretary of Agriculture Benson.

Booklet Enlists Employees' Support. "It Serves You Well," is the name of a booklet recently published by the Bureau of Business Practice, New London, Conn. The publication is designed for distribution by employers as a communications medium. Sample copies are available upon request to Bureau headquarters, 100 Garfield Avenue, New London, Conn.

Textile Scholarships. Ten members of this year's freshman class at Lowell Technological Institute who are residents of Massachusetts will receive Commonwealth of Massachusetts scholarships in the amount of $250 each. The scholarships will be awarded on the basis of the placement examination given to all freshmen.

Increase in Carpet Production. Production of wool and blended carpets and rugs for the first six months of 1953 amounted to 38,121,000 square yards, the Carpet Institute, Inc., has announced. This represents an increase of 29 per cent over the same period in 1952.

Textile Apparel Agency to Close. The Armed Services Textile Apparel Procurement Agency has been directed by Congress to discontinue operations no later than December 31, 1953.

Flameproofing for Cotton. The York Research Corporation of Connecticut has approved for hotel and industrial use the first durable flameproofing compounds for cotton fabrics. A series of exhaustive tests run on bed tickings and work clothing fabrics treated with Treesdale Laboratories' "Permaproof" process were disclosed in a report from York Research.

Reduction in Exports. Exports of American-made cotton textiles in the first half of the current year amounted to 330,178,867 square yards as compared with 384,922,764 square yards in the corresponding period of 1952, the Textile Export Association of the U. S. reports.

Cotton to be Advertised. More than $17,000,000 will be spent this year to advertise cotton products to American consumers through magazines alone, according to the National Cotton Council.

Cotton Research Proceedings. Proceedings of the 1953 Cotton Research Clinic have been published by the National Cotton Council and are available without cost to the textile and allied industries. The 125-page book contains the full transcript of all papers given at the two-day meeting held last February in Savannah, Ga.

◆◆

Warping from Spinning Bobbins Clarified

On page 153 of the November issue of TEXTILE INDUSTRIES there appeared an article titled "Spinning Bobbin to Section Beam Warping Eliminates Winding Operation." To avoid the impression that this mill is warping directly from the spinning bobbin without "snicking" at the spoolers, it should have been noted that the bobbins are run on twisters.

The warping from this type of package is confined to ply yarns which have been spooled before twisting.

Are You Getting a Fair Day's Work for a Fair Day's Pay?

As Production Engineers we specialize in the utilization of

LABOR — EQUIPMENT — MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"We think highly of the work done by these men and recommend them without reservation."

A LARGE PRODUCER OF SHEETINGS, SHIRTINGS, ETC.

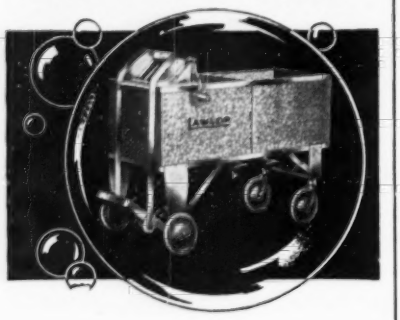
Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

AMERICAN ASSOCIATED CONSULTANTS, Inc.

D. S. KEOGH, President — H. B. CRAFT, Vice President and Manager of Operations

250 PARK AVENUE, NEW YORK 17, N. Y. — GRANT BUILDING, PITTSBURGH, PA. — 30 CAMDEN ROAD, ATLANTA, GA.

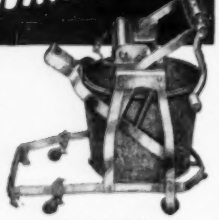
LAWLOR MOPPING TANKS



Lead the Field in RUGGEDNESS and SERVICE

8 styles and sizes of all steel, acetylene welded tanks • 2 or 3 compartments • 30, 60 or 65 gallon capacities • Hand or foot pressure wringers • Perforated roll wringers • Special drain shut-offs • Hot dipped, galvanized chassis and frames • Rubber tired, cadmium plated steel wheels.

LAWLOR MOP WRINGERS



Copied but never Duplicated!

EASIEST turning wringer made: there are bearings at ends of rollers.

EASY to bring rolls together; the foot lever is perfectly balanced.

EASY to move wringer: self-adjusting front casters raise metal feet from floor when you're ready to go.

The LAWLOR No. 2 accommodates any standard round, galvanized pail up to 16-quart capacity. Net weight of wringer—23 pounds.

LAWLOR No. 6 TWIN is like the No. 2 Wringer in general construction, but accommodates two pails.

Write for Catalog of Complete Lawlor Line.

S. C. LAWLOR CO.
Quality Floor Equipment for 50 Years
121 N. Aberdeen St., Chicago 7, Ill.

SUPPLIERS News

WHAT THEY ARE DOING

Aerovent Fan Co., Inc., has opened a new general office building at 700 East Ash St., Piqua, Ohio.

Jack P. Trexler, formerly with The Lanier Co., has joined **Slaughter Machinery Co.** as district manager. * * * Also J. H. (Tom) Aydelette has joined the company as sales representative,

Mr. Trexler

and covers North Carolina and Virginia. Mr. Aydelette was previously connected with Greensboro Loom Reed Co., Inc.

New assistant manager of the Texrope Drive Section of **Allis-Chalmers Mfg. Co.** is Dwight H. Lory, formerly assistant to the general manager of the company's Norwood plants. He has been with the firm since 1942.

Ernest K. Hunt, manager of advertising and public relations of **American Cyanamid Co.'s Calco Chemical Division** has assumed, in addition to his other duties, direction of advertising and sales promotion for the Textile Resin Department. R. L. Greason has been appointed advertising and sales promotion manager of the Textile Resin Department, reporting directly to Mr. Hunt.

George C. Galphin, Jr., and Louis Cramer have been transferred from the Textile Research Department at Marcus Hook, Pa., to the Charlotte, N. C. district sales office of **American Viscose Corporation.** Mr. Cramer specializes in viscose filament yarns, and Mr. Galphin acetate yarns.

Eddie J. Dickert, Jr., Julian E. Gardner, Edward C. McNair, and Alston H. Pickett, III, recently joined **Barnes Textile Associates, Inc.,** southern division in Spartanburg, S. C. Mr. Dickert recently completed a tour of duty with the U. S. Navy; Mr. Gardner was formerly with the Dunean Mills and the Joanna Cotton Mills; Mr. McNair, with Saco-Lowell Shops and Erwin Cotton Mills; and Mr. Pickett, Bemis Brothers Bag Company.

Recent promotions in the **Bassick Company** are: Richard J. Benson, formerly handling government sales and preparation of catalogs and sales literature, as advertising manager; R. D. Mount moves to his new position as manager of distributor sales and truck caster sales, from the post of assistant sales manager and advertising manager.

Atlantic Steel Company has named Gordon E. Brooks its Atlanta, Ga., sales representative. He has been with this company since 1933, serving in various sales capacities.

Sales representative for the **H. Brinton Company** for the metropolitan New York and New England territories, is David Brinton. Prior to

Mr. Brinton

his new position Mr. Brinton was factory manager in charge of production. He has been with the company since 1936.

The **Carbic Color & Chemical Co. Inc.,** has elected: Dyer S. Moss as president; Carl W. Kuhl, II, executive vice-president and treasurer; Thorwald Larson, vice-president in charge of sales; and Edward Grayson as southern manager. C. Walter Kuhl continues in his position as chairman of the board.

Ralph Gossett & Co., Greenville, S. C., have been appointed representatives in North Carolina and

Sullivan County, Tennessee, for **Mona Industries, Inc.'s** line of yarn conditioning machinery and yarn conditioning chemicals.

Wyandotte Chemicals Corp.'s Michigan Alkali division has named Walter L. Rippeteau general product manager. He has been with the firm since 1947.

Charlotte, N. C., will be headquarters for textile operations of **Celanese Corp. of America** the early part of next year when the $5 million office building now under construction is completed. K. C. Loughlin of Charlotte is vice-president and general manager of this division. Already there are 210 persons there on the Celanese payroll. Eventually the number will be approximately 700, according to reports.

John W. Merry is the new president of the **Centrif-Air Machine Co., Inc.,** of Atlanta, Ga., succeeding the late John B. Brennen. L. H. Smith, formerly assistant general manager, has been promoted to vice-president.

The Clark Equipment Company, Buchanan, Mich., recently appointed the Crunkleton Company, Charleston, W. Va., as a distributor of Clark's full line of materials handling equipment. Leslie D. Crunkleton, Jr. manages this new dealership.

C. M. Hickey has been appointed manager of manufacturing of the **Consolidated Chemical Industries Inc.'s** southern division. Mr. Hickey has been affiliated with the company since 1924, and before this recent appointment, was general superintendent of plants.

Courtaulds, Inc., is reported to have purchased a 3½ acre site in the northeastern part of Mobile County, Alabama, for construction of a $500,000 pilot plant and laboratory for experimentation in rayon and other fibers.

The second annual award of the Seventh District of the Advertising Federation of America was received by the **Daniel Construction Co.** of Greenville, S. C., for the most outstanding job of advertising in the South.

The Dayton Rubber Co. has appointed John J. Walsh advertising manager and Robert T. Hollister, manager of the public relations staff. They will be under the direction of Ray Wetzel, director of advertising and public relations. Mr. Walsh has been advertising manager of Crosley Motors and Clopay Corp. and also of the Palm Beach Co. Mr. Hollister was recently connected with the Akron Beacon Journal as public service editor and promotion manager.

Fred K. Quigley, Jr., has been appointed head of technical service and development activities of the field of

Mr. Carpenter

latex paints, and Manson C. Carpenter succeeds him as head of the textile section of coatings technical service, the Plastics Department of **Dow Chemical Co.** has announced.

The Bristol Co. has appointed F. W. Borchers general sales manager and D. C. Sanford manager of the application engineering department. Mr. Borchers has been with the firm since 1922; Mr. Sanford joined the organization in 1937.

Dr. Lester S. Sinness, head of direct sales, has been appointed to the newly created position of manager of the sales divisions of **Du Pont's** Textile Fibers Department and Dr. David H. Dawson, formerly assistant general manager of the Fabrics and Finishes Department, as assistant general manager in charge of manufacturing. William T. Wood, previously director of manufacturing for Dacron, Orlon, and acetate, succeeds Dr. Sinness. * * * James J. Cook of Charlotte, N. C., district manager for acetate sales, has retired after al-

A SUBJECT INDEX of articles appearing in TEXTILE INDUSTRIES during 1953 has been prepared for your convenience and is loosely bound in this issue. We urge you to retain it in a handy place for reference when problems arise in the mill.—The Editors.

HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

Metal Protection for Wood Tapslags

J. N. ANDERSON, *Treas.*

LAWRENCE, MASS., U.S.A.

Call MILTON for dependable BEAMS

Light Metal featuring continuous welded construction

NYLON & RUBBER YARN BEAMS

FORGED HEADS
RIGID BARRELS

Forged heat-treated aluminum alloy heads and extra heavy wall barrels designed to withstand extreme pressures of monofilament; fine denier; low-turn nylon; and rubber yarns. 13¾" and 21" diameter heads.

SECTION BEAMS

Adaptable to all makes of warpers. Cast aluminum alloy heads and extruded aluminum barrels cannot shrink, swell, splinter or distort.

STEEL BARREL
WARP BEAMS
for BROAD, NARROW FABRIC, RIBBON, VELVET AND CARPET LOOMS

BROADLOOM BEAMS

for C & K and Draper Looms

Shown above is Milton's stud construction (also made with cast iron hubs).

RIBBON LOOM BEAMS

Adjustable head with fixed shaft, or fixed head with removable shaft.

WRITE FOR FREE BULLETINS

MILTON MACHINE WORKS
INCORPORATED
DESIGNERS • ENGINEERS • MANUFACTURERS
MILTON • PENNA.

WELDING CLINIC, METAL SHOW HELD IN ATLANTA

A Welding Clinic, Metal Show, and Fluid Handling Exposition, sponsored by the **J. M. Tull Metal and Supply Co., Inc.,** of Atlanta, Ga., was held Oct. 7-9 at the firm's Foundry Street Warehouse, on the occasion of the opening of a 22,000 sq ft addition to the structure.

Among the forty manufacturers participating in the show were: Air Reduction Sales Co.; Aluminum Co. of America, Armco Steel Corp.; The Carborundum Co.; The Carpenter Steel Co.; Fulton Sylphon Div., Robertshaw Fulton Controls Co.; The International Nickel Co., Inc.; Jenkins Bros.; Mason-Neilan Regulator Co.; Horace T. Potts Co.; The William Powell Co.; and Superior Tube Co.

most half a century with the company.

The **Draper Corporation** has opened a sales and service office in Greensboro, N. C. As part of the southern sales department, headed by Walter M. Mitchell, vice-president,

Mr. Huff

the office will be managed by J. Craig Huff. Associated with him will be Paul A. Wilson, salesman, and Floyd B. Elsmore, serviceman.

Refinite Sales Co., Omaha, Neb., and **Elgin (Ill.) Softener Corp.** have joined forces in the water conditioning business. The industrial water conditioning products and services of both companies are being handled by a combined sales-engineering organization known as Elgin-Refinite, Inc. The officers are: C. T. McGill, chairman of the board; E. W. Scarritt, president; C. A. Spaulding and Dr. George Lindig, vice-presidents; R. W. Leach, treasurer; and J. F. McGill, secretary.

The **Fairgate Rule Co.** has moved into its new factory at Cold Spring on-Hudson, N. Y. As well as continuing the old line of hard aluminum rules, T-squares, and triangles, special rules will be made up according to customers' blueprints and specifications.

Head of the new southern office of The **W. F. Fancourt Co.** is J. Thomas Lindley. The office, now located in Burlington, N. C., was

Mr. Lindley

formerly in Greensboro, N. C. Mr. Lindley has been with the firm since 1948.

A. Benson Davis is new representative for skein reelers in the states of North Carolina, South Carolina,

and Virginia, for the **Fidelity Machine Co., Inc.,** of Philadelphia. Mr. Davis has been associated with Fidelity for 14 years.

Hugh F. Fenlon, consulting engineer, has opened an office in the Mortgage Guarantee Building in Atlanta, Ga.

The **H. F. Livermore Corp.,** of Boston, Mass., has recently appointed Raymond M. LaFortune as Canadian

Mr. Lafortune

sales representative. Mr. LaFortune was previously connected with the Bachmann Uxbridge Worsted Corp.

R. M. Stotsenberg is new sales manager of Fielden Instrument Division of the **Robertshaw-Fulton Con-**

Mr. Stotsenburg

trols Co. Mr. Stotsenberg was previously with the R. C. A. Victor Division, Camden, N. J.

General Plastics Corp.'s enlarged manufacturing facilities are located at 165 Third Ave., Paterson 4, N. J.

A. F. Perry Company, Inc., Leominster, Mass., and James L. Johnson, Dallas, Texas, are two new representatives for the **Industrial Radiant Heat Corp.** of Gladstone, N. J. They handle the Plasti-former for vacuum forming of thermosetting sheet plastics and Fibre Glass and Superadiant Heaters for industrial heat processing.

Johnson Bronze Co. has opened a new sales office and warehouse in Charlotte, N. C. A complete stock of bronze bars, electric motor bearings, and automotive bearings and bushings will be maintained.

The James Hunter Machine Co. of North Adams, Mass., has added

Mr. Creegan

Harry F. Creegan to its staff. Mr. Creegan was previously with Rodney Hunt Machine Co.

Cy Lavin has been appointed sales promotion manager for the **Joy Chemical, Inc.,** Greenville, S. C., manufacturers of textile sizings, gums, adhesives, etc.

John O. Hunt, former head of Hunt Machine Works, Inc., has formed a new corporation known as **Southern**

SUPPLIERS News — WHAT THEY ARE DOING

Loom Development Co., in Greenville, S. C. The new firm is equipped to design and develop textile machinery and to license manufacturers to produce its products under patents. Patents have been applied for on a new harness-motion loom to replace both the dobby and cam types now in operation, according to Mr. Hunt.

Pfaff Industrial Sewing Machine Corp. has opened new headquarters at 1140 Broadway, New York, N. Y.

J. Carlile Martin, formerly with Whitin Machine Works and before that vice-president in charge of sales for H & B American Machine Company, is now vice-president and sales manager of **Meadows Manufacturing Company,** Atlanta, Georgia.

Permachem Corp. has moved its general office and development laboratories to West Palm Beach, Fla. Cecil P. Young, president, states that the new quarters will provide adequate space for additional technical

When you need fast-wetting action, better detergency — specify

LAUREL SYNTHETIC DETERGENTS

Hundreds of processors rely on Laurel Synthetic Detergents for speedier penetrating and scouring action on all fibers and fabrics. Unusual stability . . acid, alkali or hard water. Available in powder or liquids. Write today for samples and recommendations.

Coning and Spinning Oils for all fibers. Antistatic compounds. Penetrators. Finishes for specific applications.

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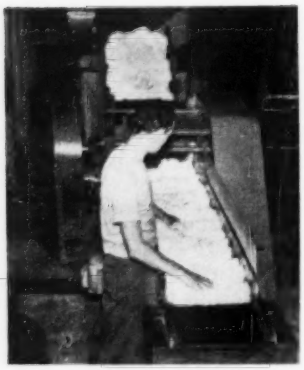

TAYLOR-STILES
Latest Type
Thread Waste Cutter

HAS EVERYTHING for Synthetics

For cutting Synthetic waste you need the added features we have given our Thread Waste Cutters.

- Long feed rolls extending through the sides of the feed box prevent yarn from wrapping and working into the bearings of the feed rolls.
- Wide spacing of the cutting cylinder knives provide pockets into which the waste can move freely without jamming.
- Increasing the distance between cutting element and frame helps prevent wrapping and jamming.
- The feed apron is raised so fibres gravitate toward bed knife. With motor driven feed and discharge entire feed assembly mounted on casters can be pushed back, giving access to knives and feed rolls.

Send for our Thread Waste Folder, No. App. 201, which gives sizes and details and illustrations of the various models of this machine, providing for the differing needs of the many mills that can use them profitably.

TAYLOR, STILES & COMPANY

204 Bridge Street **Riegelsville, N. J.**

SUPPLIERS News — WHAT THEY ARE DOING

and research personnel required to adopt the company's germ-free process to new materials, including synthetics.

J. L. Wagoner has joined **Multi-Amp Corp.**, Harrison, N. J., as vice-president and national sales manager. He was previously with Westinghouse Electric Corp.

J. B. Goldberg, former research director of J. P. Stevens & Co., Inc., and now consultant to the textile and allied industries, has been appointed technical advisor to the **Rayon Information Center.**

Clifford R. Gillam, Buck Hill Falls, Pa., is chairman of the **American Standards Association's** committee on institutional textiles, which held its first meeting October 7. Objective of the committee is better service from institutional textiles.

A new stock-carrying factory warehouse and sales office have been established by **Quaker Rubber Corp.**, Division of H. K. Porter Co., Inc., in Los Angeles, Calif.

Remington Rand Inc.'s new lease plan makes a comprehensive range of business machines and office equipment available on a lease basis. The plan applies to all its machine and equipment lines, from a card file unit to the electronic "brain."

General Motors Corp. has announced the appointment of Harry W. Holdsworth as advertising manager for the New Departure division. He succeeds Carleton B. Beckwith, retired.

Albert H. Borchardt, with the firm for 44 years, has retired as vice-president of **Worthington Corp.**

Charles F. Bruder has been elected a vice-president of **Singer Sewing Machine Co.** He will be in charge of all sales of household sewing machines, appliances, and related products and services in the United States and Canada. Mr. Bruder has been serving as vice-president in Singer Co.'s electrical division, Diehl Manufacturing Co.

Petrie & McNaught Ltd. of Rochdale, England, have been given an exclusive license to sell and manufacture the patented Knotwood feed aprons in England and all countries of the world except the United States and Canada, according to **Sjostrom Machine Co.**

Askania Regulator Co., has appointed Marshall & Williams Sales Corp., Greenville, S. C., sales representative for Askania edge position control and cloth guide in the Carolinas and southeastern Virginia.

The **Sherwin-Williams Co.** has under construction plants in Venezuela and Mexico, to meet the expanding demand for the firm's products in Latin America, according to Arthur W. Steudel, president.

Universal Detergents, Inc., Long Beach, Calif., has opened an eastern sales office at 420 Lexington Avenue, New York 17, N. Y., with F. H. Guernsey as sales manager.

Tritex, Inc., is the name of a new firm established by M. Earl Heard, Jr., Lanett, Ala., to engineer the picker modification and install Fitex drawing (2 over 3), both of which were formerly supplied by Southeastern

Mr. Heard

Engineering Company. Tritex, Inc., will utilize the services of the same engineering crews which previously have installed the systems in textile plants.

The new Cincinnati district office manager for **Sterling Electric Motors, Inc.,** is John F. Curd. 2904 Woodburn Ave., Cincinnati 6, Ohio, is the new address of the sales office.

Two new officers of the **Society of Industrial Packaging and Materials Handling Engineers** are Stanley Price of Western Electric Co., chairman of the board, and Earl B. Candell of the General Electric Co., Lamp Division, president.

Walter C. Thompson has become executive vice-president of **The Torrington Co.,** succeeding Alfred W. Burg, retired. Mr. Thompson was formerly vice-president in charge of sales. Succeeding him is Ray B. Nichols, who in addition to his pro-

motion retains his position as president and general manager of the company's Indiana Division. Other advancements at the South Bend plant include: Rodney T. Dunlap, vice-president and general manager of this division; John A. Toth, assistant general manager, and Walter Fisher, chief engineer.

The **Westinghouse Electric Supply Co.** and **Multi-Amp Corp.** have reached an agreement whereby Multi-Amp portable high current test instruments will be distributed exclusively through the 117 Wesco branches.

Omer L. Dixon has been named industrial sales manager of **Textileather Corp.** Mr. Dixon will work with industrial accounts through the company's sixteen regional sales offices.

Turbine Equipment Co. has formed the Hynes Electric Heating Division, for engineering, manufacturing, and sales of Hynes industrial electric heating equipment such as that used on embossing or printing rolls, jacketed dye vessels, etc.

Lawrence H. Bruce, technical representative for the latex and aqueous dispersions group of the Naugatuck chemical division, **United States Rubber Co.**, has been assigned to Akron, Ohio. Mr. Bruce, who has been associated with Naugatuck chemical for approximately 11 years, will cover Ohio, western Pennsylvania, part of Indiana, West Virginia, and the eastern part of Kentucky.

Wyandotte Chemicals Corp. has appointed as product managers, N. L. Amend, industrial organic chemicals sales department, and E. J. Ackerman, anti-freeze glycol sales department, of the Michigan Alkali Division. Mr. Amend was previously with the Buffalo Electric Chemical Co. in the special products department; Mr. Ackerman with Commercial Solvents Corp.

Recently appointed to the headquarters staff of John K. Hodnette, vice-president in charge of the Company's industrial products division, was David W. R. Morgan, vice-president and general manager of the **Westinghouse Electric Corp.'s** South Philadelphia plant. Westinghouse operations at South Philadelphia are now directed by the two division managers: Leslie E. Lynde and Ray H. Timmons. * * * The former Middle Atlantic District of Westinghouse Electric Corp., has been reorganized to become the Atlantic Region of the company. E. W. Loomis has been named vice-president of the new Atlantic Region. Other changes are: T. P. Jones, formerly Philadelphia branch manager will serve as manager of the new Philadelphia district. J. W. Magee, formerly Baltimore branch manager, is head of the new Chesapeake district. * * * The northeastern region has been re-organized to include the five sales districts of Boston, Connecticut Valley, Newark, New York City, and New York State. Headquarters staff appointments are: K. L. Horgan, industrial manager; H. R. Benson, maintenance manager; M. L. Gardner, engineering and service manager; and E. W. Seay, application data and training manager. District assignments are: E. C. Delano, manager of the Boston district; E. G. Horton, manager of the Connecticut Valley district; W. C. Wood, Newark district; H. E. Dralle, New York City district; and H. B. Vidal, New York State district. L. J. Fitzpatrick was named assistant to the general manager of the lamp division.

Vanton Pump Corp. has changed its name to **Vanton Pump & Equipment Corp.** Its manufacturing plant has been moved from Long Island City to a new building on the premises of its affiliate company, the Cooper Alloy Foundry Co., Hillside, N. J.

Kenneth Van Kampen is now general superintendent of **Warner Electric Brake & Clutch Co.** He was previously with Fairbanks-Morse Co. The George J. Fix Co., Dallas, Texas, has been named southwestern distributor for the industrial division of the firm.

A new sales office is being opened in Duluth, Minn., for the **Reliance Electric & Engineering Co.** J. A. Ritt, field sales representative, serves as a sales engineer throughout the Northern Minnesota mining and industrial area for the company's motors, motor drives, and associated electrical equipment.

The manufacturing floor space of **Winsor and Jerauld** is being doubled through construction of an addition to be completed before the end of the year. A new sales office has been opened under the direction of Albert J. Cole at 518 Atando Ave., Charlotte, N. C. The company has terminated its association with Alexander F. Schenck of the Industrial Equipment Co.

Orr
SLASHER
Cloth
With Special
Chemical Treatment
Something New and Better

• Slasher Cloth is an important maintenance item in a cotton mill. With the introduction of ORR Slasher Cloth with Special Chemical Treatment, many of the problems which have pestered the slasher room foreman have been eliminated.
The slasher room foreman, in order to satisfy the superintendent and the cost department, must have available a Slasher Cloth that:

1. Dresses the yarn properly.
2. Holds its width. No shrinkage.
3. Maintains level production performance
4. Starts fast — lasts long.

ORR Special Treated Slasher Cloth maintains uniform dressing properties, resists bacteria and steam degradation, maintains dimensional stability. Discuss your Slasher Cloth problem with your ORR representative.
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THE ORR FELT & BLANKET CO.
PIQUA, OHIO, U. S. A.

Industrial Woolens by Orr
STARTS FAST — LASTS LONGER

BETTER SHADES...

BETTER FINISH...

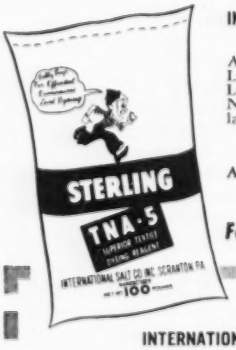
STERLING TNA·5*

AT LOWER COST!

New Textile Dyeing Reagent

BETTER – 6 WAYS!

1. An efficient and economical replacement, pound for pound, for anhydrous sodium sulphate in a neutral dye bath.
2. TNA-5 is neutral, readily soluble in either cold or hot water.
3. Can be used in a neutral dye bath when dyeing cotton, rayon or wool or any blend of these fibers, in the staple or piece goods.
4. Eliminates dye precipitation, produces a good color yield, level shades and a soft finish.
5. Can be used either in dry fine granular form or automatically converted to fully saturated brine with the TNA-5 Dissolver.
6. TNA-5 is especially effective with Direct or Naphthol dyes—produces excellent crock fastness and clear, brilliant colors.



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Order TNA-5 Today!

For more information, send coupon!

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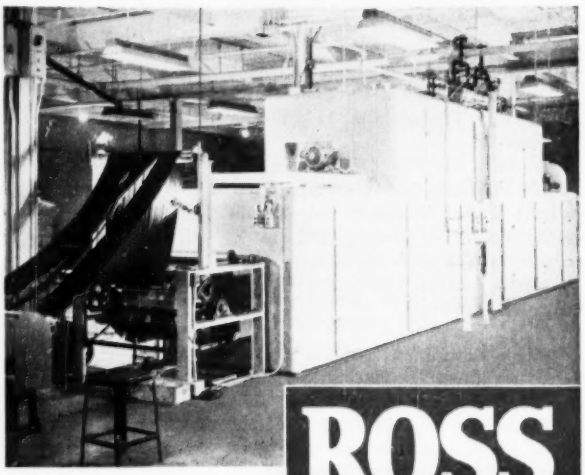
New *Man-Made* Fibers are introducing New Drying Problems



ROSS Air Systems

are solving the tough ones

Here's a ROSS straight-pass dryer specially designed to permit circulation of a large volume of air for drying tops without scattering the fibers. Result—more uniform drying, improved quality and elimination of difficulties caused by intertwining. Just one of many similar problems solved by ROSS Engineering.

Consult us about ROSS Air Systems for drying and fusing material coated with organosols or plastisols, dipped, saturated or printed fabrics or sheeting. Utilize ROSS' 32 years of drying experience.

J. O. ROSS ENGINEERING CORPORATION

Designers and Builders of Air Processing Systems

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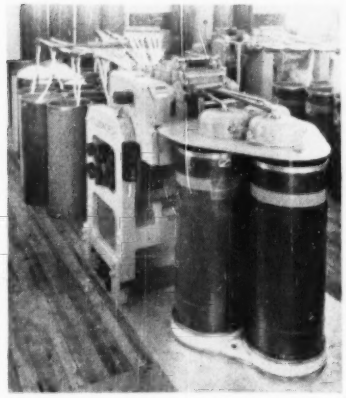
LOS ANGELES 17—600 St. Paul Avenue
SEATTLE 1—823 Skinner Bldg.

ROSS ENGINEERING OF CANADA, LTD.—MONTREAL, VANCOUVER
CARRIER ROSS ENGINEERING COMPANY, LTD., LONDON, ENGLAND

3-Delivery Gill Reducer

(Continued from page 87)



Holdsworth three-delivery gill reducer available from Atkinson, Haserick.

smoothly through the set, consisting of a two-delivery breaker, the new three-delivery intermediate, and a four-delivery finisher gill reducer.

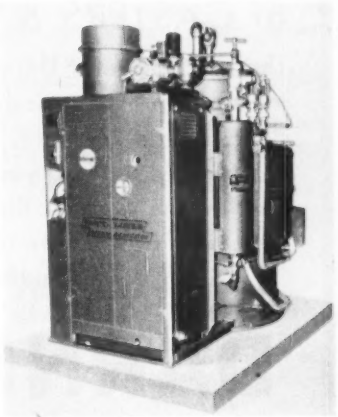
Each of the three machines produces the same total sliver weights while operating at the same draft. The result is a balanced set that makes fuller use of fiber, manpower, and floor space.

Atkinson, Haserick & Co., Boston 6, Mass.

For additional data, request item L-105, using Handy Return Card on page 182.

NEW Equipment AND MATERIALS

Other items are described on pages 85 and 87



Vapor-Clarkson steam generator.

Jersey Knitter Has Double Number of Striping Feeds

A new variable stripe and pattern-placing jersey knitting machine, designated Model C-SAAF, has 32 feeds with a four-color striping box and 3-level pattern wheel and pattern placer on each feed, permitting simultaneous yarn changes on every feed on the machine. With a striping box on every feed, the knitter can double production capacity on certain patterns and increase the variety of fabrics which can be produced.

Striping boxes are smaller and more compact, permitting easier accessibility to the knitting elements system and giving the operator a better view of the knitting elements and the fabric being produced. Also, they are keyed for simplified setting and to eliminate possibility of misalignment. Each box is equipped with a new scissor-type "No-Waste" cutter which is positive and foolproof in its operation.

Knitting elements system has been improved to protect quality of production. Interference from needles in welt position which cause "skips" when operating in 3-position patterns or drop stitches on 3-position patterns in knit and welt work is eliminated.

The stationary yarn stand with steady cone plate bars accommodates 128 yarn cones.

Supreme Knitting Machine Co., Inc., Ozone Park, N. Y.

For additional data, request item L-118, using Handy Return Card on page 182.

Steam Generator for Mills Where Natural Gas Is Available Only Part of Time

A new Vapor-Clarkson steam generator, Model OKJ-4740, can change from fuel oil to natural gas fuel by flipping one switch and without interrupting steam output. Mills located in areas where natural gas is available only part of the time will be particularly interested in the equipment which develops full working steam pressure up to 300 psi in less than three minutes from cold water and makes 1500 to 5000 lb of steam per hour. It is over 80% efficient.

Shipped as a complete package which includes electric motor, blower, feed water pump, steam separator, steel coils, and all the controls, in a trim cabinet, the unit is ready for operation when electrical, steam, fuel, and water connections are made.

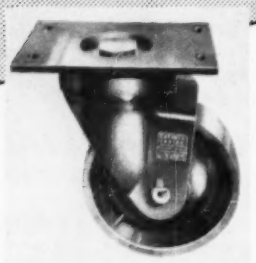
Vapor Heating Corp., 4501 W. 16th St., Chicago 23, Ill.

For additional data, request item L-204, using Handy Return Card on page 182.

Textile Fungicides Can Be Incorporated Directly in Treating Baths

Cunilate #2174 is a 10% formulation of solubilized copper-8-quinolinolate used for the mildewproofing of fabrics, threads, webbing, cotton rope, etc., which lend themselves to solvent immersion. It can also be used in combination with waxes, flame retardants, organosols, and other textile treatments.

Cunilate #2174-WP is a 10% formulation of solubilized copper-8-quinolinolate, in combination with waxes and water-repellent agents. It is designed for solvent applications where mildewproofing and water re-



Specify Darnell

...OVER 4000 TYPES of CASTERS & WHEELS

There is a type of Darnell Caster or Wheel for every kind of use and floor. Made for light, medium and heavy-duty service, you are sure to find in the Darnell line the exact caster or wheel to meet your individual requirements.

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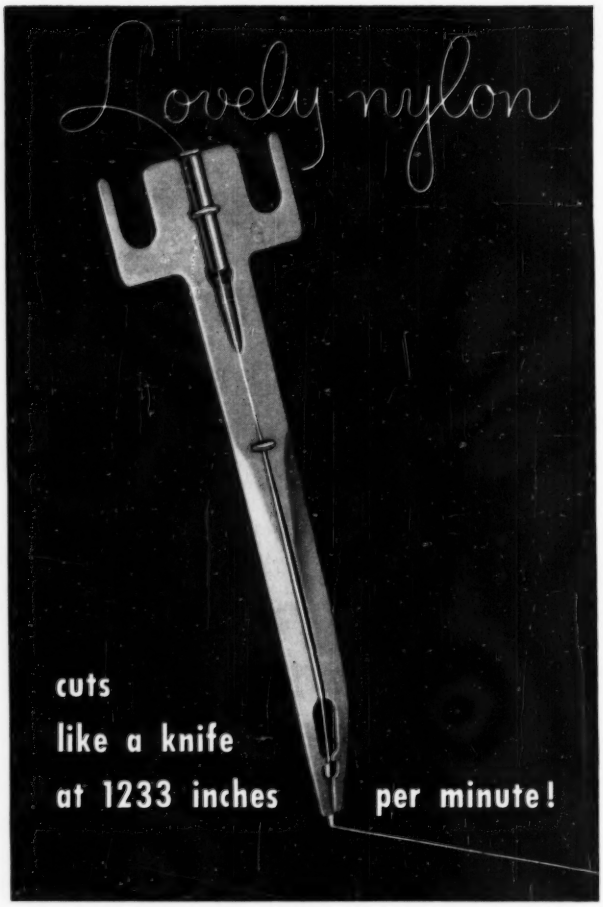
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS



Through the tubes of this Lieberknecht carrier, nylon yarn races at a speed of 80 to 85 courses—1160 to 1233 inches—per minute. Is there any wonder why it eventually grooves the best of thread guides?

Karl Lieberknecht prolongs the life of original and replacement carrier tubes by forming them from Superior 52100 alloy steel tubing purchased through the local warehouse distributor. Lieberknecht uses two sizes in their patented design—.050" O.D. x .032 I.D. and .126" O.D. x .078 I.D.

If you have use for tubing—**for thread guides, needles, warp bars, welt rods or any other textile purpose**—let Superior engineering and production help you to longer wear and lower costs. Write for Bulletin 32. Superior Tube Company, 2007 Germantown Ave., Norristown, Pa.

Round and Shaped Tubing available in Carbon, Alloy and Stainless Steels, Nickel Alloys and Beryllium Copper

Superior

THE BIG NAME IN SMALL TUBING

All analyses .010" to ⅜" O.D.
Certain analyses (.035" Max. wall) up to 1¾" O.D.)

West Coast: Pacific Tube Company, 5710 Smithway St., Los Angeles 22, Calif. UNderhill 0-1331

pellency are to be applied in a single treatment.

Cunilates #2419 and #2419-A were developed for fabric treatment by the emulsion method to provide the same fine solubilized copper-8-quinolinolate treatment now obtained with solvent soluble types. They enable manufacturers without facilities for handling of solvents to obtain comparable treatments. #2419 contains no dye and is used wherever light yellowish green color of Cunilate is desirable. #2419-A is used wherever treatment of OD or khaki materials is needed and was developed to prevent serious color changes.

Cunilate #2440 and #2440-Light were developed for fabric treatment by the emulsion method to provide both the required fungus resistance and a high degree of water repellency.

Scientific Oil Compounding Co., Inc., 1637 S Kilbourn Ave., Chicago 23, Ill.

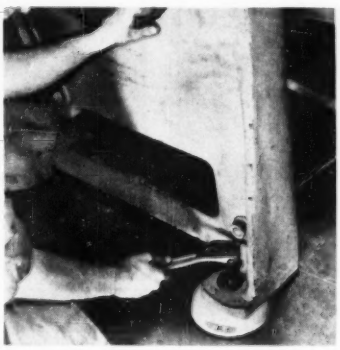
For additional data, request item L-124, using Handy Return Card on page 182.

Vibration Isolator Has Its Own Leveling Mechanism

Installing and leveling heavy machinery in minutes—without bolting or shims—is now possible with the new series LM3 and LM5 Barrymounts (vibration isolators). They lift a machine foot to the required height for leveling by a simple turn of the attaching bolt.

Advantages to be derived include: Reduced installation and maintenance costs—no more bolting or cementing machines to floor; mounts isolate all modes of vibration—horizontal, vertical, rotational—so machinery stays put; fewer adjustments on precision machinery; decrease in plant noise level; money-saving mobility that allows shifting heavy machinery for any reason.

Barry Corp., 1000 Pleasant St., Watertown, Mass.



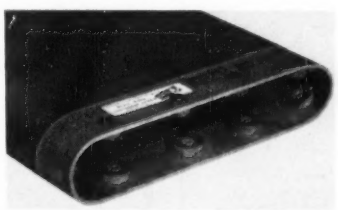
Leveling a machine resting on Barrymounts is easy.

For additional data, request item L-206, using Handy Return Card on page 182.

Up to 25% More Wool Card Production with Synthetic Rub Aprons

Bull Dog rub aprons for card condensers are made of an exceptionally durable, synthetic material. Advantages to be derived from them include:

Increased card condenser production (up to 25%); jack spool capacity increased 40 to 50% by weight; firmer and denser roving runs better in spinning; end breakage is less; they stay clean longer, resist stains, clean easily; resist oil; resist surface glazing and hardening; retain high surface coefficient of friction without surface treatment; reinforced end construction with buttons securely anchored by enlarged rivet heads; maintenance costs reduced; longer machine life because machine can be run up to 30% slower where only ordinary rubbing is required.



End view of the Bull Dog rub apron (Boston Woven Hose).

Boston Woven Hose & Rubber Co., Cambridge, Mass.

For additional data, request item L-101, using Handy Return Card on page 182.

NEW Equipment AND MATERIALS

Chemically Treated Starches with Unusual Emulsifying and Thickening Properties

A new series of chemically treated starches with unusual emulsifying properties is now available in experimental quantities for product research and development. Potential applications include water repellent treatments for textiles.

National Starch Products, 270 Madison Ave., New York 16, N. Y.

For additional data, request item L-119, using Handy Return Card on page 182.

Self-Supporting Joint Features Less Weight, Size, and Longer Life

The new Series 2000 Type S self-supporting Johnson Joint, for admitting steam or other fluids into the rotating rolls and cylinders of textile machines offers lighter weight, smaller size, lower cost, and longer life of the wearing parts.

This joint is designed for use where suitable supports cannot be provided, and for use where lateral movement is encountered. It shifts as the roll shifts—ends completely the danger of rapid wear or the loss of operating efficiency that comes with misalignment.

The new joints are available in a wide range of threaded nipple sizes, for pressures to 150 and to 250 lb, and for 450 F maximum temperature. Both through-flow and syphon-pipe type arrangements are offered.

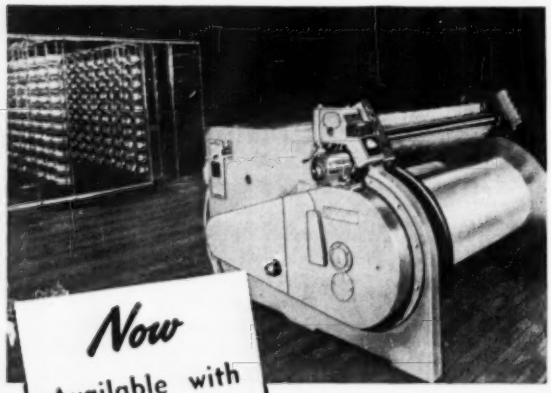
The Johnson Corp., Three Rivers, Mich.

For additional data, request item L-122, using Handy Return Card on page 182.

Perpetual Maintenance for Water Systems

A simple unit called the "Evis" water conditioner removes scale from water pipes and prevents its formation. Made in standard sizes from ½" to 12", the self-contained device which requires no maintenance can be conveniently located on the incoming water main or used on

HIGH SPEED
SIPP-EASTWOOD WARPER



This warper may be had with *fully electronic drive* (for extremely accurate control of yarn speed) or with *Rider Roll Rheostat type drive.*

The High-Speed Sipp-Eastwood Warper with its choice of drives, sturdy, extra-heavy construction, smooth application of power, spindle-driven beam, and dependable V-belt drive makes for more efficient operation. Its speed is only governed by the yarn.

OUTSTANDING FEATURES:

1. *Spindle driven beam builds up to 36" in diameter, 54¼" wide, or wider.*
2. *Electrically operated hydraulic brakes, automatically adjusted to beam load.*
3. *Variable finger-tip speed control, effective to as close as 1%.*
4. *Hydraulic beam doffing.*
5. *AC current only required.*

Ask for all the facts about this efficient warper.

SIPP-EASTWOOD CORPORATION
45 Keen Street **Paterson, New Jersey**

DOMESTIC AGENTS:

J. S. FALLOW & CO.
4846 Sherbrooke St., West
Montreal, Canada

J. S. FALLOW & CO.
New Bedford,
Mass.

Kali Kalamines

. . for yarn, piece goods, tops, and raw stock.

These Kalamines are substantive softeners that are highly resistant to oxidation and yellowing in storage, with the added feature of possessing valuable anti-static properties.

Kali Kalamines applied in the last rinse after dyeing or bleaching, exhaust completely to the fiber—soften and protect the goods through several launderings.

Two New Kali Kalamines:

KALAMINE A—is anionic, will not affect shade of dyed goods—compatible with bleaching agents and can be added directly to the kier, for cottons.

KALAMINE C—is cationic; may be used on all fibers. Especially recommended for wool and wool-synthetic blends.

Write for descriptive literature.

KALI MANUFACTURING COMPANY
Manufacturing Chemists
427 Moyer Street **Philadelphia 25, Pa.**

KENTEX
TEXTILE APRONS

Precision-built, of genuine leather, they "Fit Better—Wear Longer." Write for free samples and prices.

TEXTILE APRON CO., East Point, Ga.

HUGH WILLIAMS & COMPANY, TORONTO, CANADA—CANADIAN REPRESENTATIVE

STRIP-O-MATIC CARD CLOTHING...

. . . runs virtually without stripping. Saves time, money, and labor. Produces better quality.

Booth

CARD CLOTHING FOR EVERY NEED
STRIP-O-MATIC AND CONVENTIONAL

BENJAMIN BOOTH COMPANY, ALLEGHENY AVE. & JANNEY ST., PHILA., PA.

NEW Equipment AND MATERIALS

separate pieces of water-using equipment. The unit causes a physical change in molecular behavior of water, enabling water to penetrate and to loosen scale formations which flow away. New scale is prevented because particles are held in suspension. Chemical composition of water is not changed.

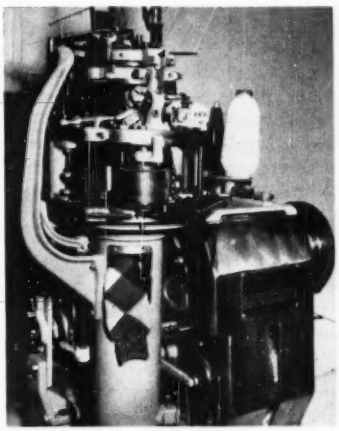
Evis Mfg. Co., 40 Boardman Place, San Francisco, Calif.

For additional data, request item L-205, using Handy Return Card on page 182.

Machine Knits Children's Mesh Hose and Solid Color Argyles

A circular knitting machine recently announced was designed primarily for production of children's mesh hose and has been adapted to the manufacture of solid color argyle socks made with cut float thread design.

Designated the Carolina Hose Knitter, it can be supplied with individual motor drive mounted on the frame. Many of the parts are made of aluminum and magnesium to reduce weight. Another feature of the machine is the double feed for inserting the colored yarns for the diamond effect. Manufactured in diameters from 2½" through 3¾", 18 through 70 gauge.



Morris Speizman Co., Inc., 508-514 West Fifth St., Charlotte 1, N. C.

For additional data, request item L-112, using Handy Return Card on page 182.

New Dyestuffs by National Aniline

National Solvat Blue 6B, a leuco vat ester dye, produces bright blue shades when printed or dyed on cotton, rayon, silk, wool, and many synthetics. Although this dye is of primary interest as a printing and padding color, it is also applicable by the jig, reel, pressure and open box methods of dyeing. This product possesses the good light fastness and excellent all round wet fastness properties characteristic of the brominated indigo vat dyes.

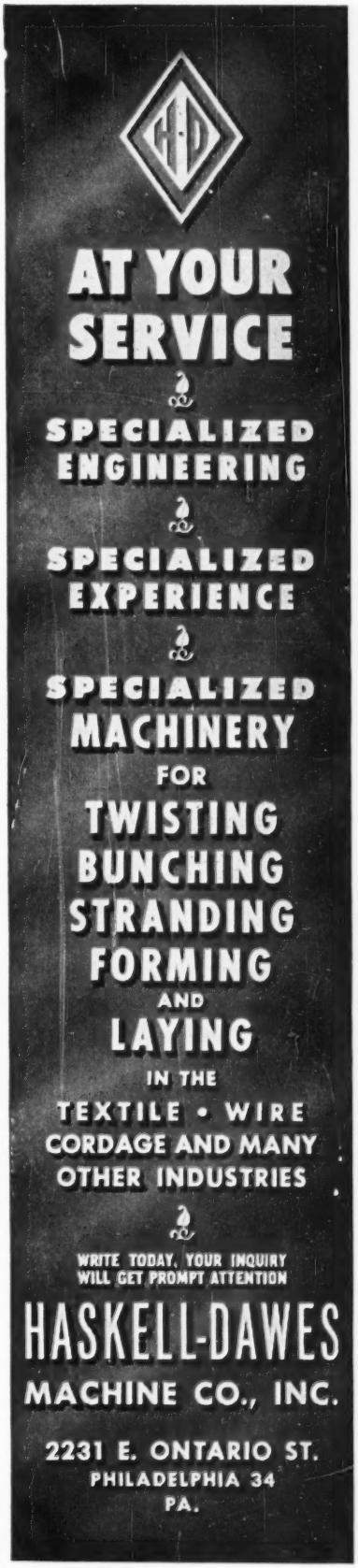
National Carbanthrene Brown BR, a new anthraquinone vat dye, is available in both the paste and convenient flake form. It is suitable for application to both cotton and rayon in any stage of manufacture. Reddish brown shades of excellent fastness to light, washing, perspiration, dry cleaning, hot pressing, and sea water are produced. This product also exhibits very good to excellent fastness to boiling soap, chlorine and peroxide bleaching, stoving, mercerizing, and cross dyeing. Materials dyed with it can be resin finished for crease resistance with but slight yellowing of the shade and no loss of light fastness.

A non-dusting, level-dyeing, acid dye, **National Fast Wool Yellow GL,** produces on wool, bright clear shades of yellow. This product possesses excellent fastness to light, steaming, hot pressing, alkalies, cold water, and crocking.

Well adapted for coloring piece goods such as flannels, ladies dress goods, and knitting yarns, it is especially recommended for the dyeing of wool and fur felt hats, and can also be used to color pieces that are to be discharge printed.

National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

For additional data, request item L-123, using Handy Return Card on page 182.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Semi-Skilled Person Can Operate This Recording Spectrophotometer

A recording spectrophotometer for industrial use in setting up standards to control the color of dyes, textiles, and other materials offers the advantages of accurate color measurement, greater sensitivity, and faster operation.

The instrument furnishes a rapid color analysis by drawing a complete didymium curve in 54 seconds with photometric accuracy of 0.5 per cent, wave length accuracy within 1.0 millimicron, and photometric precision within 0.2 per cent.

A range of 380 to 700 millimicrons has been provided in anticipation of any new colorimetric standards which may be established by the International Commission of Illumination.

The instrument has been simplified so that a semi-skilled person now can operate the equipment with relatively little instruction. Routine operation is largely automatic.

The three components of the 500-lb apparatus — the monochromator, photometer, and recorder — are housed in a single enclosing case.

General Electric Co., Special Products Section, Schenectady 5, N. Y.

For additional data, request item L-208, using Handy Return Card on page 182.

Two New 25-hp P. I. V. Variable Speed Drives

Link-Belt P. I. V. positive, infinitely variable speed drives are now available in two new types for 20 to 25 horsepower applications: An HG-6 drive, furnished with either a single reduction input or single reduction output helical gear attachment, or an HGG-6 drive, furnished with both a single reduction input and single reduction output helical gear attachment.

Input gear reductions are available from 1.93:1 minimum to 5.82:1 maximum, and output gear reductions from 1:1 to 6.33:1.

The P. I. V. variable speed drive provides accurate speed control, adjustable over a wide range of speeds. It transmits power positively, without slip, by means of a drive chain with self-forming metal teeth that engage with radial grooves in two pairs of cone-shaped wheels. Ratio is changed by altering the effective diameter of the wheels.

The P. I. V. has many uses, such

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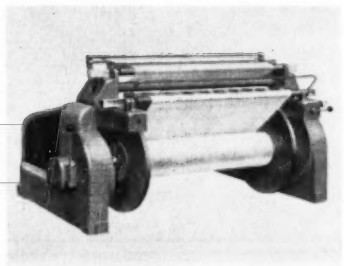
(3) For precise control and infinite variation of machine or conveyor speeds;

(4) For rapid speed changing under full load by manual, automatic or remote control. P. I. V. automatic controls can be electronic, hydraulic, pneumatic or mechanical.

The drive is fully enclosed and constructed entirely of metal.

Link-Belt Co., 307 N. Michigan Ave., Chicago 1, Ill.

For additional data, request item L-210, using Handy Return Card on page 182.



F. N. F. "Cascade" warper.

High Speed Warper Features Ease of Operation

A new direct warping machine for weavers offers advantages which include high speed, efficiency, beam quality, and ease of operation and maintenance.

With the "Cascade" machine, the yarn is drawn from the creel (existing types can be used) through a system of revolving rollers before being wound on to the back beam. These rollers are an integral part of the machine and, with other devices, enable an easily adjustable tension to be maintained over the whole yarn sheet. Yarn control is both practical and adequate througout the warping process.

The system also provides for a constant and predetermined linear yarn speed irrespective of increasing yarn diameter on the beam. The braking system is powerful and sensitive and is automatically adjusted during running so as to allow for the increasing weight of the beam. Warps can be stopped in a very short time and before any broken ends are lost.

A special feature of the design is the easy accessibility of the yarn approach to the beam, thus enabling the operative to attend to the yarn sheet rapidly. Each moving part and control mechanism can easily be adjusted and maintained at any time of the warping cycle without removing the beam or yarn.

The running controls of the machine are foolproof and require very little, if any, adjustment. Loading and unloading are very simple and can be performed by one girl operative moving a lever. The fixing of screws, bolts, etc. is obviated.

F. N. F. Limited, Burton-on-Trent, England.

For additional data, request item L-401, using Handy Return Card on page 182.

Plate Coils for Tank Heating and Cooling

Dean Thermo-Panel plate coils eliminate the need for pipe coiling in tank heating and cooling. They are easily replaced and simple to clean.

Low in cost and light weight, they provide efficient heat transfer and

NEW Equipment AND MATERIALS

are available in special shapes and in a wide range of materials including stainless steel, monel, and other special alloys.

Dean Products, Inc., 1042 Dean St., Brooklyn 38, N. Y.

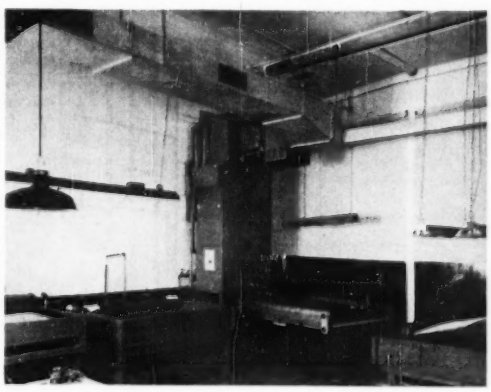
For additional data, request item L-209, using Handy Return Card on page 182.

Handy, Self-Focusing Magnifying Glass

A self-focusing magnifying glass that enlarges reading matter to double size is handy for engineers and mechanics in reading blue prints and machine graduations, etc. It is rectangular in shape and rests on the reading matter, eliminating necessity for holding glass in hand. Available in 3", 6", 9" and 12" lengths.

J. B. Sebrell Corp., 300 South Los

A New 7 in 1 Air Conditioner!



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- Air Washing
- Air Filtering
- Air Changing

The new Therm-Evac unit is shown above in a lithography plant where conditions of temperature and humidity, even more exacting than those required by textiles, must be maintained around the clock.

Smoothly incorporating each of these functions in one streamlined, easy to install unit, Air-Perme-Ator, with textile needs and problems in mind, has added some extra special, exclusive features to their new Therm-Evac unit. Two of these are:

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AIR-PERME-ATOR MFG. CO.

300 Preakness Avenue Paterson, N. J.

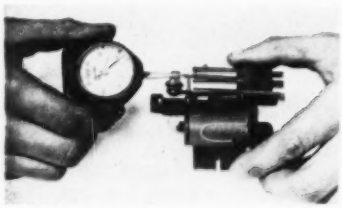
Southern representative: Lucas Associates, Inc., Box 1696, Charlotte, N. C.

Angeles St., Los Angeles 13, Calif.

For additional data, request item L-207, using Handy Return Card on page 182.

Device Measures Spring Tension, Starting Torque of Delicate Mechanisms

A new precision dynamometer for measuring spring tension, starting torque, and the force required to actuate delicate mechanisms such as



electric contacts, relays, time switches, etc., is available.

George Scherr Co., 200 LaFayette St., New York 12, N. Y.

For additional data, request item L-203, using Handy Return Card on page 182.

New Process Renders Gums 100% Effective in Cold Water

Aqualized gums for use in sizing and finishing compounds, waterproofing emulsions, printing inks as a thickener, etc., are available in powered form. Standard Aqualized Gums offered are: Tragacanth, Karaya, Locust Beam, Arabic, CMC. All types of gums can be aqualized.

A special process enables all water soluble and water dispersable gums to develop full viscosity on introduction to cold aqueous media, without any special heating, aging, or agitation. Clumping and unreacted dry cores of gum are completely eliminated. Uniformity from batch to batch is easily maintained.

Soluble Products Co., 360 Furman St., Brooklyn 1, N. Y.

For additional data, request item L-109, using Handy Return Card on page 182.

Want More Information on These Items?

Use Handy Return Card on page 182, giving Key Number (L-400, etc.) which appears after the name of the supplier of the item in which you are interested. Or, if you prefer, write supplier direct.

Good low temperature operation, excellent shear stability, high oxidation resistance, good rust and corrosion protection for metal parts, and capacity to perform even when contaminated with water are characteristics of the new **Texaco All Temp Grease.**

The Texas Co., 135 E. 42nd St., New York, N. Y. (L-316).

Neoprene 100, a **formulation for tank lining** and plant maintenance, greatly reduces the labor of application. There is no loss of physical or corrosion resisting properties, and coatings cure at room temperature.

Carboline Co., 331 Thornton Ave., St. Louis 19, Mo. (L-301).

The Model 553 **vibration analyzer** permits selective readings of steady

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state vibration phenomena from as many as six points on a device or machine while it is operating under any simulated circumstance of load or speed.

International Research & Development Corp., 168 Hosack St., Columbus, Ohio (L-303).

Corrosion-resistant process equipment, including centrifugal pumps, valves, pipe, and fittings, is manufactured in both natural and Buna "N" hard rubber.

Vanton Pump & Equipment Corp., Empire State Building, New York, N. Y. (L-304).

A **Buffer-Vac attachment** for the Clarke Model P-15 Floor Maintainer now makes it unnecessary to sweep floors when polishing, steel-wooling, or disc sanding.

Clarke Sanding Machine Co., Muskegon, Mich. (L-305).

For control circuits requiring a time delay initiated by a momentary impulse, such as from a pushbutton or microswitch, a new Agastat **time delay relay** has been developed.

A'G'A Division, Elastic Stop Nut Corp. of America, Elizabeth, N. J. (L-306).

"Robot" spectrophotometer, Model DR, runs analyses practically unattended and with accuracies matching or exceeding the best manual operation. Three samples can be run simultaneously, with each curve plotted in a different color.

Beckman Instruments, Inc., South Pasedena, Calif. (L-307).

Conax "Midlock" **tube fitting** is made for locking and sealing at any location on a tube. Ferrule is deformed against tube and provides seal without cutting into tube surface and without stress concentration.

Conax Corp., 4515 Main St., Buffalo 21, N. Y. (L-308).

A Size 2U electric **Impactool** is designed to save time and effort on nut running (up to ¼" bolt size), tapping, screw driving, reaming, drilling, etc., jobs. Weighs only 5 lb; measures 9¾" overall. Also available is an **angle head attachment** for use with Impactools for reaching those really "hard to get at" nuts and bolts.

Ingersoll-Rand Co., 11 Broadway, New York 4, N. Y. (L-309).

Designed for mildly corrosive service is a new **125-lb iron gate valve,** the cast iron body and bonnet of which contain 3% nickel.

Lunkenheimer Co., Box 360, Cincinnati 14, Ohio. (L-310).

"Vitroplast" is a new vinyl-base, **chemical-resistant cement** which does not require acid or alkaline setting agents and will set in contact with concrete or steel and under adverse conditions. Useful in bleaching units operating at pH's ranging from 1 to 11.

The Atlas Mineral Products Co., Mertztown, Penna. (L-311).

Flexible motor couplings, sealed-for-life bearings, and sturdily welded support frames are construction features of two new **Dispersator drive units.** Labeled Series 2400, for beam or channel mounting with open tanks, and Series 3200 for flange mounting-sealed system operation, units are designed to operate at 30- to 300-gallon batch range.

The Premier Mill Corp., Geneva, N. Y. (L-312).

For high bay lighting and similar places where it is difficult and expensive to clean conventional lamps and fixtures is the recently expanded line of **reflector lamps** which includes

NEW Equipment AND MATERIALS

six lamps of various ratings and beam spreads. Life of 2000 hours.

Westinghouse Lamp Division, MacArthur Ave., Bloomfield, N. J. (L-313).

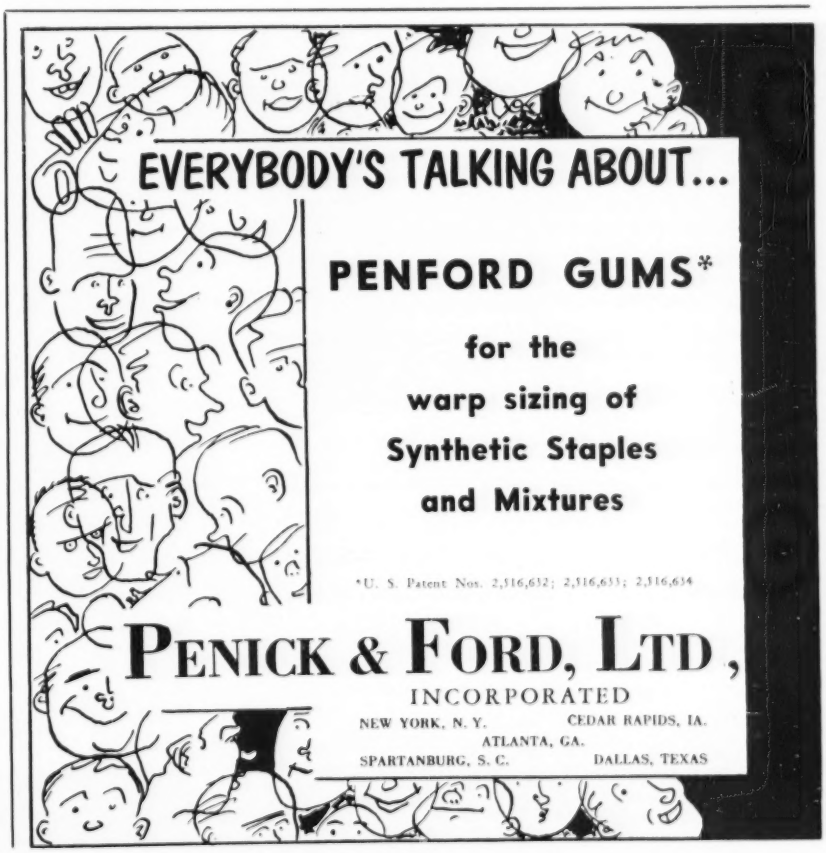
"Coloray" is the name under which Courtaulds, Ltd., is marketing the **solution-dyed rayon staple** being produced in its Mobile, Ala., plant.

Courtaulds Ltd., 600 Fifth Ave., New York, N. Y. (L-314).

A line of **polyphase a-c motors,** called Tri-Clad 55, offers better protection, more efficiency, and quieter operation. Size is 50% less by volume and weight per horsepower is 22% less.

General Electric Co., Small Integral and Medium Induction Motor Departments, Schenectady 5, N .Y. (L-317).

Many organic and inorganic acids, salts and alkalies, and plating solu-



NEW Equipment AND MATERIALS

tions can be handled much longer in an **improved acid hose** now on the market. Tube of this hose is also highly abrasive resistant to withstand slurries.

Raybestos-Manhattan, Inc., Manhattan Rubber Div., Passaic, N. J. (L-318).

A **neoprene safety rubber** with tri-vac sole prevents slipping on floors and outlasts several pairs of ordinary rubbers in the presence of oil, grease, acids, chemicals, solvents, etc.

Tingley Rubber Corp., 903 Ross St., Rahway, N. J. (L-319).

New Books

In a new research study, **"Tax Planning for Foundations and Charitable Giving,"** William J. Casey, J. K. Lasser, and Walter Lord analyze the public policy which gives tax concessions for charitable gifts made by individuals and businesses. Published by Business Reports, Inc., 1 Main St., Roslyn, Long Island, N. Y. ($12.50).

For those who read German, a number of books on the technology of warp knitting and also on the pattern range of warp knit machines (three volumes that must be ordered as one unit) are available. Titles are: **"Technologie Der Kettenwirkerei"** Von Emil Michael (price $5.00); **"Bindungslehre Der Kettenwirkerei"** Von Prof. Ing. A. Weigkricht (price $15.00). Robert Reiner, Inc., Weehawkeen, N. J.

Symposium on Continuous Analysis of Industrial Water and Industrial Waste Water has been published by the American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. (price $1.50). Six papers presented at the 55th annual meeting are included, emphasis being placed on utilization of automatic equipment for the purpose.

An English translation of the second edition of the Swiss text **The Identification of Textile Fibers** (Qualitative and Quantitative Analysis of Fibre Blends) has been prepared by the author, Bruno Luniak,

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revised and brought up to date, and is available from the British Book Centre Inc., 122 E. 55th St., New York 22, N. Y. It describes the methods of analysis of textile fibers with particular attention given to microscopic preparation and technique. Detailed instructions are given for performance of tests and a "Fibre Atlas" of 312 photomicrographs is an aid to identification.

Proceedings of the Fall Meeting of the Textile Quality Control Association contains papers on quality control in finishing, detection and control of honeydew, nep control, cotton fiber measurement, analysis of yarn uniformity, and a comparison of perforated and regular card screens. Available from George Archer, 2516 Wilkinson Blvd., Charlotte 8, N. C. (price, $5.00).

An Executive Views the News in Textiles

(Continued from page 83)

by all of these organizations has not yet been met, the approval of the Rule change by the two larger organizations certainly puts a stout club in your hands in the event you receive cotton which is wrapped in objectionable types of cotton bagging.

Communications

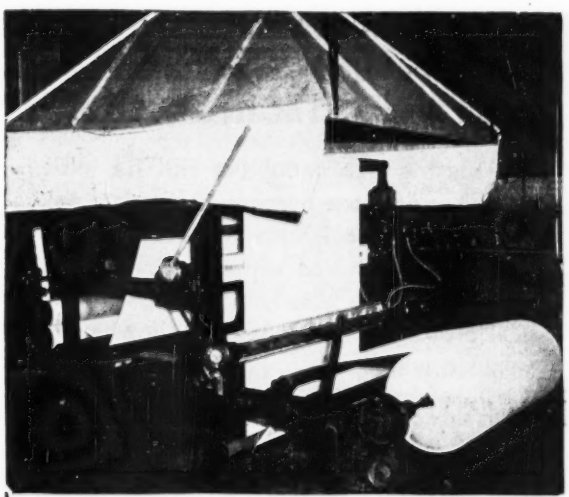
As they say in some parts of the country, it is a "fur piece" from raw cotton to plant newspapers, but in another sense of the word it is not so far as it may seem. The chance remark of an associate of ours the other day reminded us of what a tremendous value a plant newspaper can be in communicating the thoughts of management to employees. This is particularly true in large organizations with several thousand employees where difficulties of communicating with people down the line is a major problem.

It may be entirely true that you understand the serious implications for your business of changes in the United States' tariff policy and that you have crystal-clear views as to the effect of modernization on cost reduction, but what do the people who work in the mill think?

You know that the poor cannot be helped by destroying the rich, and that capital must survive if jobs are to be protected, but do the people who work for you understand these things?

A plant newspaper is one of the best ways we know of to get across facts such as these. In the final analysis the people who make the laws in Washington and in our state capitols seem to have a habit of listening more to people who work with their hands than they listen to people who sit behind desks. Are you missing this opportunity to get your story across to your employees?

We are not selling newsprint or ink, but we do have the very sincere feeling that a plant newspaper, when properly used, can be an effective tool for management.



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Suggestions for Weaving Dacron Yarn

(Continued from page 131)

package in which yarn is not restrained from contraction, such as skeins or compressible tubes.

Use lowest tension that will provide stable quills. Du Pont experience indicates that quilling tensions should be approximately 0.33 grams/denier for continuous filament yarns. Emphasize tension uniformity from quill to quill and within a quill. Avoid irregular pinching or squeezing of yarns.

Weaving. Relative humidities of 55-70% in weave room are suggested. Watch for shedding due to high humidities that soften size films. Static in continuous filament weaving has been greatly reduced by application of anti-static agents to filling yarns.

Small bits of waste, such as knot clippings, should be put into container rather than dropped onto loom or floor to prevent them being attracted to yarns by static and woven into fabric.

Clean warps with even yarns, uniform end-to-end tension, and clean, uniform quills are required for good weaving. Close attention to accurate loom adjustment and maintenance is very important in production of high quality fabric. Reed marks can be reduced in intensity by use of reeds with oval dent wires and by frequent cleaning and dent alignment.

Fabric defects due to broken filaments are oftentimes caused by rough reeds or heddles, excessively high warp tensions, or insufficient size protection.

Pilling Test Developed for Apparel Fabrics

(Continued from page 141)

Pill formation may show up almost anywhere on a synthetic fabric without an undue amount of wear. However, pilling on a well-fulled wool-blend fabric does not take place nearly as readily and then develops first in those local areas where wear is most pronounced. Reduction in fulling and increase in synthetic fiber content lower the protection offered by the wool. These are generalities, of course, and do not take into consideration variations in fabric construction and finishing which can very greatly change the pilling characteristics of comparable fabrics.

Fabric Appearance-Retention Tester. The machine developed to test fabric appearance changes, such as fuzzing, pilling, nap removal, and shine development, is known as an appearance-retention tester. Motor-driven and connected to an electric timer which automatically controls the test period, it consists of an upper, nonrotating head on which the sample is mounted and a bottom abradant holder which follows an oval path.

No tension is applied to the sample or abradant (generally a selected heavy fabric).

Pilling may be evaluated either by counting the number of pills formed per square inch or by judging the sample against an established standard. Nap or cover durability may be evaluated by simple thickness measurements which measure the rate at which the nap is raised and then worn off, and by the length of time it takes for the fabric to become threadbare. Shine development may be evaluated by visual observation or by means of reflectance measurements.

Investigations of pilling with the new tester explain the general nature of the rate processes involved in pill formation during wear and the basic difference in pilling observed between wool-blend and fully synthetic fabrics.

Selected laboratory pilling values have been found to correlate very well with observed pilling in wear for a wide range of flannel, tropical, serge, and melton fabrics.

Progress is being made in the development of a simplified laboratory test for the control and acceptance testing of pilling.

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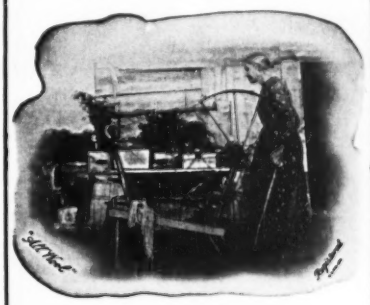

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Flame Resistant Cotton Fabrics with THPC

(Continued from page 143)

forming solution, drying, curing at an elevated temperature, and then washing and drying.

A typical resin-forming solution consists of 15.8% THPC, 9.5% trimethylolmelamine (Resloom HP), 9.9% urea, and 3.0% triethanolamine. Essentially all of the trimethylolmelamine polymerizes with the THPC and becomes part of the flameproofing agent. During the polymerization, hydrochloric acid is split out of the THPC molecule. Urea is present in the formulation to tie up this free acid formed during the curing operation in order to protect the cotton from acid tendering.

In general, fabric will receive a more uniform application if it is padded through the resin-forming solution twice using a very tight squeeze roll setting each time. To prevent solution migration and stiffening of the treated goods, only moderate tension should be applied to the fabric as it comes from the padder and it should be dried as soon as possible at a temperature of about 185 F. Temperatures above about 220 F cause surface curing before the inside of the yarn is dry.

It is necessary that the THPC resin be cured at an elevated temperature in order to fix it in the fiber. The temperature of the cure is dependent upon length of time cured. A short cure time should be accompanied with a high temperature and vice versa.

The preferred temperature and time of cure will vary for different materials. Eight ounce twill is adequately cured in about 4.5 minutes at 285 F. Much shorter times than this at the same temperature reduce the efficiency of the resin-forming solution, but fortunately little or no harm is done if the goods are cured twice as long. The effects of prolonged cure times at temperatures above 285 F are not yet known.

Excess salts can be washed from the cured goods by most any technique since they are water-soluble. A softener can be applied to goods during the last rinse or it can be applied later.

Although the resin treatment does not lower the breaking strength, it generally reduces the tear strength of goods, but if a softener is applied after the resin treatment, the tear strength is usually equal to that of the untreated fabric.

The THPC treatment is compatible with water repellent treatments. Some of these act as softeners and improve the hand and tear strength. They may be applied after the flameproofing treatment or in some cases may be incorporated into the flameproofing solution and applied in one padding and curing operation.

The amount or degree of flameproofing is dependent upon the amount of resin put into the fabric and upon fabric construction. Only about 10% resin is required to flameproof 32 oz duck belting whereas about 16% is required for 8 oz twill and about 32% for 2 oz marquisette.

Properties of the Flameproofed Goods. As low as 13% resin pickup reduces the flame resistance of 8 oz twill so that it will pass the standard vertical flame test, but about 16% resin is recommended to give it greater flame resistance. This 16% pickup is considerably less weight increase than is required with most permanent type flameproofers.

A very important property of materials flameproofed with THPC resins is that the goods are also glowproof.

Fabrics flameproofed with THPC resins show improved crease-resistance, often as much as 30 per cent as measured by the usual tests. There is also some evidence that the treatment imparts considerable shrink resistance.

After-treatment is not necessary for goods flameproofed with THPC resins because the resin itself protects the materials. Some THPC-treated 8 oz fabric has been exposed to rain and sunshine for three months in a warm humid climate without any visible mildew formation.

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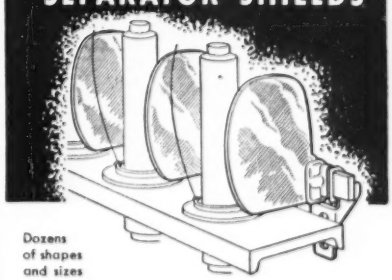

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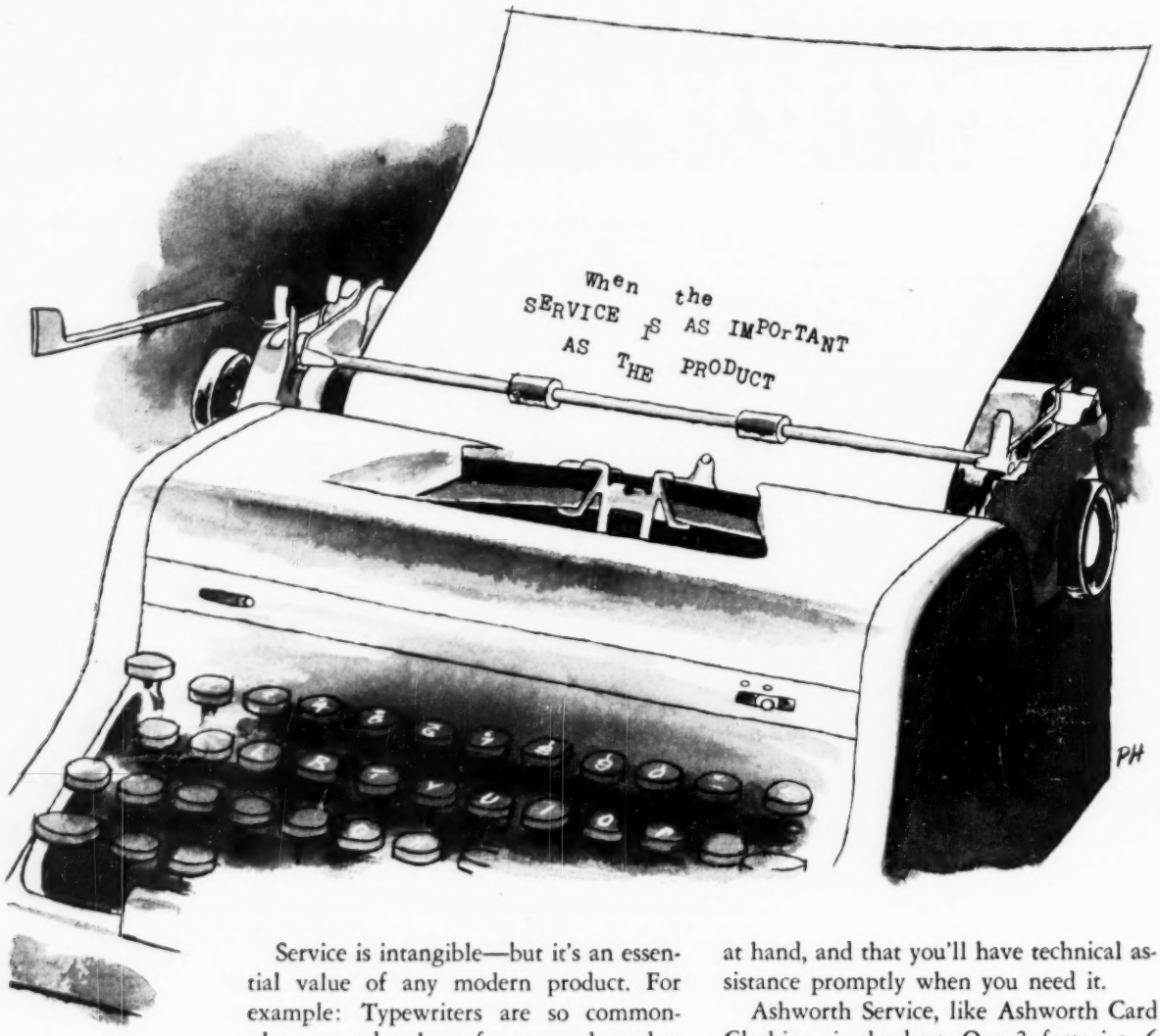

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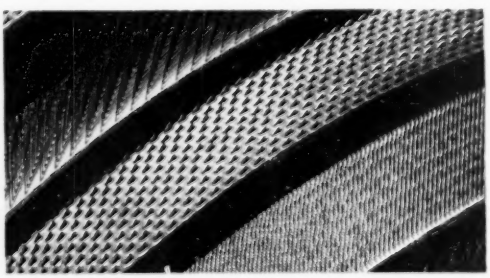
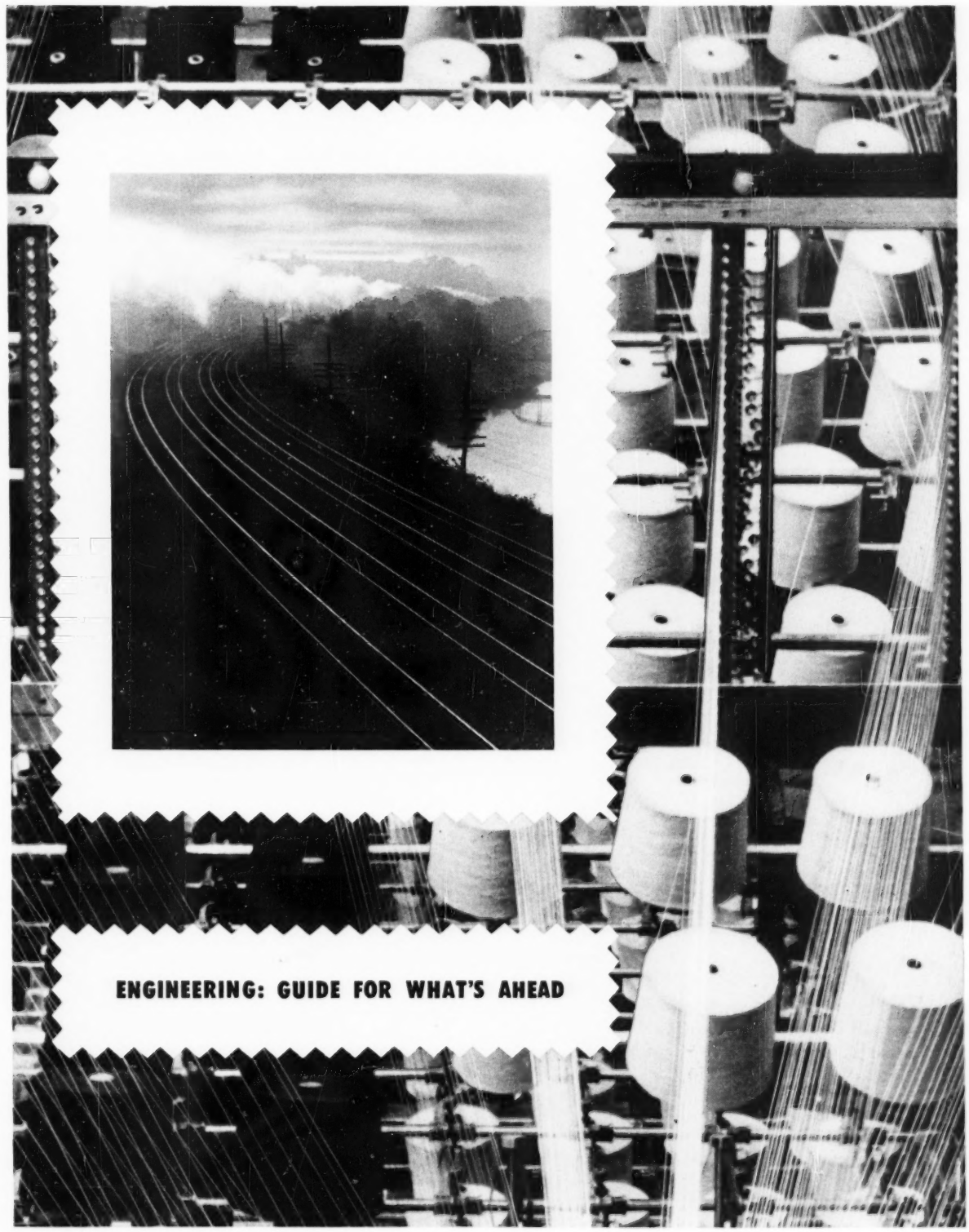
Ashworth **CARD CLOTHING**

3 FACTORIES **6** REPAIR SHOPS **7** DISTRIBUTING POINTS





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